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CATHOLIC HIGH SCHOOL ENTRANCE EXAMS COOP/HSPT

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Catholic High School Entrance Exams

COOP/HSPT



NEW YORK

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Regarding the Information in this Book

We attempt to verify the information presented in our books prior to publication. It is always a good idea, however, to double-check such important information as passing scores, entrance standards, and testing procedures with the high school you will be attending, as such information can change from time to time.

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Chapter 1— About the HSPT

Chapter Summary

This chapter will introduce you to the High School Placement Test (HSPT). You'll find out all about the HSPT—its purpose, where it is used, its scoring criteria, how to find out about the exam in your area, and a summary of the exam content. This chapter is also the key to the study chapters in this book—it tells you exactly which chapters you need to study to get a high score.

If you are an eighth-grade student who plans to attend a private, parish, or diocesan high school, this book is for you. Entry into one of these schools is competitive—that is, more students want to enter the freshman class of a given high school than there are openings in that class. Your edge will come from knowing as much as you can about the entrance exam for the school you've chosen and from careful preparation for taking that exam. This book is designed to give you that edge.

Purpose and Content of the HSPT

About 1,000 schools in the United States require applicants to take the High School Placement Test (HSPT), which is the subject of this chapter. (If you live in the Archdiocese of New York, the Archdiocese of Newark, New Jer-

sey, or the Diocese of Brooklyn and Rockland County, however, you will be asked to take the Cooperative Admissions Examination, or COOP, which is the subject of Chapter 2.) The HSPT is a two-and-a-half hour exam whose purpose is to see if you, as an eighth-grade student, are ready for high school. Your readiness is tested using 298 consecutively numbered questions over five skill areas:

- **Part 1: Verbal Skills.** 60 questions in 16 minutes
- **Part 2: Quantitative Skills.** 52 questions in 30 minutes
- **Part 3: Reading.** 62 questions in 25 minutes
- **Part 4: Mathematics.** 64 questions in 45 minutes
- **Part 5: Language Skills.** 60 questions in 25 minutes

The HSPT also offers optional tests in science, mechanical aptitude, and Catholic religion. The school you are applying to decides if you need to take one of these tests. Since they are not part of the regular HSPT, these optional areas are not covered in this book.

Each part of the exam includes several different kinds of questions, which are listed below. You can see examples of all these kinds of questions in Chapter 4, Practice HSPT Exam 1.

Part 1— Verbal Skills

Verbal Analogies (10 questions): These questions test your ability to see relationships between words and concepts. You'll be given a sentence that contains a set of two words that are related, followed by a third word and four choices. Of the four choices, you will be asked to pick out the word that best completes the second set so that the second set expresses the same relationship as the first. For examples and help with answering analogy questions, see Chapter 9, Verbal Reasoning.

Synonyms (15 questions): These questions test your word knowledge. You'll be given a word and asked to pick, from four choices, the word that most nearly means the *same* as the given word. For examples and tips, see Chapter 7, Vocabulary.

Antonyms (9 questions): Like the synonym questions, these questions test your word knowledge, only this time you will be asked to pick, from four choices, the word that most nearly means the *opposite* of the given word. For examples and help with antonym questions, see Chapter 7, Vocabulary.

Logic (10 questions): These questions test your ability to reason and think logically. You'll be asked whether, based on two statements, a third statement is true, false, or uncertain. See Chapter 9, Verbal Reasoning, for examples of logic questions and advice on how to answer them.

Verbal Classification (16 questions): These questions test both your word knowledge and your verbal reasoning ability. You'll be given four words and asked to pick the one that does not belong with the others. Verbal classification questions are also covered in Chapter 9.

Part 2— Quantitative Skills

Number series (18 questions): These questions test your ability to reason nonverbally. You'll be given a series of numbers arranged in a set pattern and asked to pick, from four choices, the number that would logically come next in the series. For examples and help in answering number series questions, see Chapter 11, Nonverbal Reasoning.

Geometric comparison (9 questions): These questions also test your ability to reason nonverbally. You will be

shown three geometric figures and asked quantitative questions about the figures—for example, which has more than, which has less than, or which is equal to one of four choices. Geometric comparison questions are covered in Chapter 11, Nonverbal Reasoning.

Nongeometric comparison (8 questions): Again, your nonverbal reasoning skills will be tested. You'll be given three number statements and asked quantitative questions about the statements—for example, which is greater than, which is less than, or which is equal to one of four choices. These questions, too, are discussed in Chapter 11.

Number manipulation (17 questions): These questions test basic math ability. You'll be asked to perform mathematical operations in order to decide which of four choices is the correct answer. For examples and discussion, see Chapter 12, Math Skills.

Part 3— Reading

Comprehension (40 questions): These questions test your ability to understand what you read. You will be asked to read a passage and then answer questions about it. Some of the questions will test your ability to identify facts in the passage, some will ask you to draw conclusions from what you read, and some will ask you to say what the author intended in writing the passage. For examples and tips on answering reading questions, see Chapter 6, Reading Comprehension.

Vocabulary (22 questions): These questions will ask you to read a short phrase in which one of the words is underlined. From four possible choices, you will choose the word that means the same or about the same as the underlined word. Chapter 7, Vocabulary, will help you prepare for this part of the exam.

Part 4— Mathematics

Concepts (24 questions): These questions test your general knowledge of principles underlying math problems. You will be given a math problem and asked to select, from four choices, the general principle or rule behind it. Examples and a review of the math concepts you need are found in Chapter 12, Math Skills.

Problems (40 questions): These questions test your practical math knowledge by asking you to solve mathematical problems. The math you need for these questions is also found in Chapter 12.

Part 5— Language Skills

Punctuation and Capitalization (12 questions): These questions test your knowledge of punctuation and capitalization in the context of a sentence. You will be presented with three sentences from which you are to pick the one with a mistake in capitalization or punctuation. If you do not find an error, you will choose a fourth option, "No mistakes." For examples of and help with the punctuation and capitalization questions, see Chapter 8, Language Skills.

Usage (28 questions): These questions test your knowledge of English word usage. You'll be presented with three sentences from which you are asked to pick the one with a mistake in usage, that is, grammar, word choice, subject-verb agreement, pronoun agreement and other kinds of mistakes in English usage. If you do not find an error, you may choose a fourth option, "No mistakes." Usage questions are covered in Chapter 8, Language Skills.

Spelling (10 questions): These questions test your knowledge of how to spell particular words. You'll be presented with three sentences from which you are to pick the one with a mistake in spelling. If you do not

find an error, you may choose a fourth option, "No mistakes." Chapter 8 is where you should go to get help with spelling questions.

Composition (10 questions): These questions test your ability to recognize effective writing. Some of the questions will ask you to fill in the blank by picking, from three choices, the best word or words to join two thoughts together. Other questions will ask you to choose, from four choices, the sentence that best expresses an idea. Still other questions will ask you to choose, from four choices, which sentence does not belong in a paragraph. Composition questions are also covered in Chapter 8, Language Skills.

Where to Take the Exam

To find out where and when you'll take the HSPT, simply call one of the schools on your list of choices.

Scoring

Scholastic Testing Service, the makers of the test, will determine your HSPT score on the basis of the number of questions you answer right. Wrong answers don't count, so you should respond to as many questions as you can, even by guessing if necessary.

The Scholastic Testing Service will then convert your raw scores to standard scores using a scale of 200 to 800. Included in the HSPT score report are your standard scores, national and local percentile rank, grade equivalent, and Cognitive Skills Quotient. Don't worry, for now, what all those things are. Basically, the school you are applying to will decide what constitutes a passing score.

Your record will be used by Scholastic Testing Service to compare your performance with that of other students in your area, and a report will be sent to the high schools you've listed as ones you'd like to attend. After that, it's up to the individual schools to decide if your scores qualify you for entrance.

How to Prepare

You've taken your first step in preparing for the HSPT by reading this chapter. You're already starting to get an idea of what to expect.

Next, read Chapter 3, The EasySmart Test Preparation System. This chapter will show you the secrets of test success and help you devise a study plan.

Take the first practice HSPT exam in Chapter 4. You'll be familiarizing yourself with the test while you find out what your strengths and weaknesses are. After you take the test, you'll know which instructional chapters you need to concentrate on. When you've spent some serious time studying, take the second practice exam in Chapter 13 to see how much you've improved.

Neither this nor any other test-prep book can make up for things you should have learned in grammar school but didn't. But if you need a brush-up on some concepts, if you need practice in answering questions in HSPT format, if you need a good boost in your self-confidence, you've come to the right place.

Chapter 2— About the COOP Exam

Chapter Summary

This chapter will introduce you to the Cooperative Admissions Examination (COOP). It gives a brief overview of the exam—its purpose, where it is used, its scoring criteria, how to find out about the exam in your area, and a summary of the exam content. Find out how to use this book to prepare for your exam by reading this chapter.

If you are an eighth-grade student wishing to make the transition to one of the 36 participating Catholic high schools in the Archdiocese of New York, the Archdiocese of Newark, New Jersey, or the Diocese of Brooklyn or Rockland County, then you will have to take the Cooperative Admissions Examination (COOP). Far more students apply to Catholic high schools in these areas than can be admitted, so the high schools use COOP exam scores to help them decide if you will be able to do the work required at the given school. This book will give you an important advantage in providing you with information about the exam—and the more information you have the better off you'll be—as well as helping you carefully prepare for the exam you must take.

The Application Process

Application forms are distributed through Catholic elementary schools and participating high schools, usually early in September. However, the dates can change from year to year, so it is important that you call one of the participating schools well ahead of the time of the exam to find out exact deadline dates. You will return your application form promptly either to your Catholic elementary school or to the testing agency along with a non-refundable fee. (In 1998, the fee was \$23.00, but you should verify this before sending it in.) This fee will entitle you to have a report of your scores sent to three schools of your choice. All admission decisions are made by the schools themselves.

Purpose and Content of the COOP

The COOP exam tests your ability to handle high-school level work. It lasts a little over two and a half hours (plus one 15-minute break), and consists of seven separate tests, as follows:

- **Test 1: Sequences.** 20 questions in 15 minutes
- **Test 2: Analogies.** 20 questions in 7 minutes
- **Test 3: Memory.** 20 questions in 17 minutes
- **Test 4: Verbal Reasoning.** 20 questions in 15 minutes, followed by a 15-minute break
- **Test 5: Reading Comprehension.** 40 questions in 40 minutes
- **Test 6: Mathematics Concepts and Applications.** 40 questions in 35 minutes
- **Test 7: Language Expression.** 40 questions in 30 minutes

Read on for a more detailed description of each test on the COOP and a pointer toward the chapters that will help you with each question type.

Test 1— Sequences

This test is designed to measure your ability to reason sequentially. You will be given a sequence of shapes, numbers, or letters in a set pattern and asked to select, from four choices, the shape, number, or letter that would continue the pattern. For examples and help with the sequences test, see Chapter 11, Nonverbal Reasoning.

Test 2— Analogies

This test measures your ability to see and understand relationships. You'll be given a set of two pictures that are somehow related, plus a third picture. You will be asked to select, from four choices, a picture which causes the second set to be related in the same way as the first set. For example, the first two pictures might be a shoe and a foot. If the third picture is a ring, then you should choose, out of the four pictures that are your answer choices, a finger, because a ring fits on a finger just as a shoe fits on a foot. See Chapter 11 for examples and help with this kind of analogy question.

Test 3— Memory

This test measures the power of your memory. Before you begin Test 1, you'll be given a list of 20 nonsense words and their definitions. The words will be read aloud to you as you follow along on the list; then you'll be given an additional 12 minutes to memorize the words and definitions. You will then take Tests 1 and 2 as outlined above. Test 3 will consist of questions about the nonsense words to see if you remember their definitions. You will not be asked to reason about the words or comprehend anything other than their literal meaning. For examples and practice with this test, see Chapter 10, Memory.

Test 4—
Verbal Reasoning

This test measures your ability to reason with words. There are four question types:

- **Identify a word that is necessary to the meaning of another word.** For example, if you are given the word "toy" and the choices "child," "play," "unimportant," and "small," you would choose "play," because toys are made to be played with. The other choices are eliminated because they are not necessary to the meaning of the word "toy."
- **Identify the relationship between words.** You will be given a set of three words that are related in some way, followed by a partial set of two words that are related in the same way as the words in the first set. From four choices, you'll pick a word that completes the second set.
- **Find the statement that must be true.** You'll be given three statements and then asked to select, from four choices, a fourth statement that *must* be true on the basis of the three statements given.
- **Define a word in an artificial language.** You'll be given three words in an artificial (imaginary) language, along with their English definitions. Although the words will be unfamiliar, there will be a logical consistency to the grammar. On the basis of this logic, you'll be asked to select, from four choices, the definition of a fourth artificial word.

Chapter 9, Verbal Reasoning, gives you tips and hints on how to tackle these questions.

Test 5—
Reading Comprehension

This test measures your ability to comprehend what you read. You'll read a short passage and answer multiplechoice questions about it. Some of the questions will concern facts and ideas that are literally in the passage, others will ask for conclusions based on the passage. See Chapter 6, Reading Comprehension, for help.

Test 6—
Mathematics Concepts and Applications

This test measures your grasp of the principles and rules of mathematics and your ability to solve math problems. Some of the problems are word problems, and some are not. Your ability to work the problems depends on your general knowledge of mathematical rules and common sense. Chapter 12, Math Skills, will help you review the math you need for this test.

Test 7—
Language Expression

This test measures your knowledge of English usage and grammar. There are ten different question types in this test:

- Choose the word that best completes the sentence.
- Choose the sentence that is complete and correctly written.
- Choose the sentence that uses verbs correctly.
- Choose the underlined word that is the simple subject of the sentence.
- Choose the underlined word or group of words that is the simple predicate (verb) of the sentence.
- Choose the sentence that best combines the two underlined sentences into one.
- Choose the topic sentence that best fits the paragraph.
- Choose the pair of sentences that best develops the topic sentence.
- Choose the sentence that does not belong in the paragraph.

To review the skills you need for this test, see Chapter 8, Language Skills.

Scoring

Your raw score on the COOP is arrived at by allotting one point for each correct answer. There is no penalty for wrong answers, so it is to your advantage to guess if you do not know the answer. Each test on the COOP contains a different number of questions, so test administrators have created a formula by which to convert your raw score to a scaled score, making it possible for them to compare your score to that of other students, as well as to compare your score on one version of the COOP to your score on another. The three schools of your choice will receive a percentile rank for you, for each part of the test.

No one fails and no one passes the COOP. Each student simply receives a score and ranking, and each school has its own standards of admission. These standards include not only the COOP scores and ranking but school grades, recommendations, and other factors, as well.

How to Prepare

You've taken your first step in preparing for the COOP by reading this chapter. You're already starting to get an idea of what to expect.

Next, read Chapter 3, The EasySmart Test Preparation System. This chapter will show you the secrets of test success and help you devise a study plan.

Take the first practice COOP exam in Chapter 5. You'll be familiarizing yourself with the test while you find out what your strengths and weaknesses are. After you take the test, you'll know which instructional chapters you need to concentrate on. When you've spent some serious time studying, take the second practice exam in Chapter 14 to see how much you've improved.

Neither this nor any other test-prep book can make up for things you should have learned in elementary school but didn't. But if you need a brush-up on some concepts, if you need practice in answering questions in COOP format, if you need a good boost in your self-confidence, you've come to the right place.

Chapter 3— Easymart Test Preparation System

Chapter Summary

Getting a passing score on the COOP or HSPT is no small task. It demands a lot of preparation. The EasySmart Test Preparation System, developed exclusively for Learning Express by leading test experts, gives you the discipline and attitude you need to be successful.

First, the bad news: Taking the COOP or HSPT is no picnic, and neither is getting ready for either test. Whether you'll be able to get into the Catholic high school of your choice depends on your getting a passing score, but there are all sorts of pitfalls that can keep you from doing your best on this all-important exam. Here are some of the obstacles that can stand in the way of your success:

- Being unfamiliar with the format of the exam
- Being paralyzed by test anxiety
- Leaving your preparation to the last minute
- Not preparing at all!
- Not knowing vital test-taking skills: how to pace yourself through the exam, how to use the process of elimination, and when/ to guess
- Not being in tip-top mental and physical shape
- Messing up on test day by arriving late at the test site, having to work on an empty stomach, or shivering through the exam because the room is cold

What's the common denominator in all these test-taking pitfalls? One word: *control*. Who's in control, you or the exam?

Now the good news: The EasySmart Test Preparation System puts *you* in control. In just nine easy-to-follow steps, you will learn everything you need to know to make sure that *you* are in charge of your preparation and your performance on the exam. *Other* test-takers may let the test get the better of them; *other* test-takers may be unprepared or out of shape, but not *you*. *You* will have taken all the steps you need to take to get a passing score on your test.

Here's how the EasySmart Test Preparation System works: Nine easy steps lead you through everything you need to know and do to get ready to master your exam. Each of the steps listed below includes both reading about the step and one or more activities. It's important that you do the activities along with the reading, or you won't be getting the full benefit of the system. Each step tells you approximately how much time that step will take you to complete.

Step 1. Get Information	10 minutes
Step 2. Conquer Test Anxiety	20 minutes
Step 3. Make a Plan	15 minutes
Step 4. Learn to Manage Your Time	10 minutes
Step 5. Learn to Use the Process of Elimination	20 minutes
Step 6. Know When to Guess	20 minutes
Step 7. Reach Your Peak Performance Zone	10 minutes
Step 8. Get Your Act Together	10 minutes
Step 9. Do It!	5 minutes
Total	2 hours

We estimate that working through the entire system will take you about two hours, though it's perfectly okay if you work faster or slower than the schedule says. If you can take a whole afternoon or evening, you can work through the entire EasySmart Test Preparation System in one sitting. Otherwise, you can break it up, and do just one or two steps a day for the next several days. It's up to you—remember, *you're* in control.

Step 1— Get Information

Time to complete: 10 minutes

Activities: Use the suggestions listed here to find out about the content of your exam.

Knowledge is power. The first step in the EasySmart Test Preparation System is finding out everything you can about the COOP or the HSPT, whichever you must take. Once you have your information, the next steps in the EasySmart Test Preparation System will show you what to do about it.

First of all, make sure you read Chapter 1 of this book if you will be taking the HSPT, or Chapter 2 if you will be taking the COOP. These chapters tell you all about the content of these tests and how to apply to take them. If you are not sure which test you have to take, the chapters will give you information to help guide you. In addition, of course, you'll want to contact the school or schools you're considering to get the latest information. Remember that different schools have different entrance requirements, and any one school may change its entrance requirements from time to time. What your scores mean may change, as well. So you will want the very latest information.

When you think about the tests in terms of their real purpose—making sure you have the skills to learn high school material, rather than as some meaningless tests you *have* to take for reasons you're unsure of—it makes studying a lot easier. If you get frustrated while studying, just tell yourself that you're really just preparing for success in high school.

Part B— What's on the Tests

You'll get this information in Chapter 1 or Chapter 2, but here's a brief outline of the content of the Catholic high school entrance exams.

The **HSPT** includes:

- **Verbal Skills:** verbal analogies, synonyms, logic, classification
- **Quantitative Skills:** number series, geometric and nongeometric comparison, number manipulation
- **Reading Skills:** comprehension and vocabulary
- **Mathematics Skills:** concepts and problem-solving
- **Language Expression Skills:** punctuation and capitalization, usage, spelling, and composition

The **COOP** exam includes:

- **Sequences:** patterns of figures, numbers, and letters
- **Analogy:** using pictures, rather than words
- **Memory:** remembering nonsense words and their definitions
- **Verbal Reasoning**
- **Reading Comprehension**
- **Mathematics Concepts and Applications**
- **Language Expression:** grammar, topic sentences, composition

Both the HSPT and the COOP are made up entirely of multiple-choice questions.

Step 2— Conquer Test Anxiety

Time to complete: 20 minutes

Activity: Take the Test Stress Test

Having complete information about the exam is the first step in getting control of the exam. Next, you have to overcome one of the biggest obstacles to test success: test anxiety. Test anxiety can not only impair your performance on the exam itself, it can even keep you from preparing! In Step 2, you'll learn stress management techniques that will help you succeed on your exam. Learn these strategies now, and practice them as you work through the exams in this book, so they'll be second nature to you by exam day.

Combating Test Anxiety

The first thing you need to know is that a little test anxiety is a good thing. Everyone gets nervous before a big exam—and if that nervousness motivates you to prepare thoroughly, so much the better. It's said that Sir Laurence Olivier, one of the foremost British actors of this century, threw up before every performance. Singer Celine Dion says she's scared to death every time she goes on stage. Stage fright need not impair performance. In fact it can lend an extra edge!

On the next page is the Test Stress Test. Stop here and answer the questions on that page to find out whether your level of test anxiety is something you should worry about.

Stress Management before the Test

If you feel your level of anxiety getting the best of you in the weeks before the test, here is what you need to do to bring the level down again:

- **Get prepared.** There's nothing like knowing what to expect and being prepared for it to put you in control of test anxiety. That's why you're reading this book. Use it faithfully, and remind yourself that you're better prepared than most of the people taking the test.
- **Practice self-confidence.** A positive attitude is a great way to combat test anxiety. This is no time to be humble or shy. Stand in front of the mirror and say to your reflection, "I'm prepared. I'm full of self-confidence. I'm going to ace this test. I know I can do it." Say it into a tape recorder and play it back once a day. If you hear it often enough, you'll believe it.
- **Fight negative messages.** Every time someone starts telling you how hard the exam is or how it's almost impossible to get a high score, start telling them your self-confidence messages above. If the someone with the negative messages is *you*, telling yourself *you don't do well on exams, you just can't do this*, don't listen. Turn on your tape recorder and listen to your self-confidence messages.
- **Visualize.** Imagine yourself being accepted to the high school of your choice. You're about to begin a great year of learning. Visualizing success can help make it happen—and it reminds you of why you're doing all this work in preparation for the test.

(continued on page 6)

Test Stress Test

You only need to worry about test anxiety if it is extreme enough to really hurt your performance. The following questionnaire will provide a diagnosis of your level of test anxiety. In the blank before each statement, write the number that most accurately describes your experience.

0 = Never 1 = Once or twice 2 = Sometimes 3 = Often

I have gotten so nervous before an exam that I simply put down the books and didn't study for it.

I have experienced disabling physical symptoms such as vomiting and severe headaches because I was nervous about an exam.

I have simply not shown up for an exam because I was scared to take it.

I have experienced dizziness and confusion while taking an exam.

I have had trouble filling in the little circles because my hands were shaking too hard.

I have foiled an exam because I was too nervous to complete it.

Total: Add up the numbers in the blanks above.

Your Test Stress Score

Here are the steps you should take, depending on your score. If you scored:

- **Below 3**, your level of test anxiety is nothing to worry about; it's probably just enough to give you that little extra edge.
- **Between 3 and 6**, your test anxiety may be enough to impair your performance, and you should practice the stress management techniques listed in this section to try to bring your test anxiety down to manageable levels.
- **Above 6**, your level of test anxiety is a serious concern. In addition to practicing the stress management techniques listed in this section, you may want to seek additional, personal help. Talk to a counselor at your present school, or to a teacher, parent, or other trusted grownup. Tell that person that you have a level of test anxiety that sometimes keeps you from being able to do well on an exam. The person may be willing to help you or may suggest someone else you should talk to.

- **Exercise.** Physical activity helps calm your body down and focus your mind. Besides, being in good physical shape can actually help you do well on the exam. Go for a run, play active sports with your friends, go swimming—and do it regularly.

Stress Management on Test Day

There are several ways you can bring down your level of test anxiety on test day. They'll work best if you practice them in the weeks before the test, so you know which ones work best for you.

- **Deep breathing.** Take a deep breath while you count to five. Hold it for a count of one, then let it out on a count of five. Repeat several times.
- **Move your body.** Try rolling your head in a circle. Rotate your shoulders. Shake your hands from the wrist. Many people find these movements very relaxing.
- **Visualize again.** Think of the place where you are most relaxed: lying on the beach in the sun, walking through the park, or whatever. Now close your eyes and imagine you're actually there. If you practice in advance, you'll find that you only need a few seconds of this exercise to experience a significant increase in your sense of well-being.

When anxiety threatens to overwhelm you right there during the exam, there are still things you can do to manage the stress level:

- **Repeat your self-confidence messages.** You should have them memorized by now. Say them quietly to yourself, and believe them!
- **Visualize one more time.** This time, visualize yourself moving smoothly and quickly through the test answering every question right and finishing just before time is up. Like most visualization techniques, this one works best if you've practiced it ahead of time.
- **Find an easy question.** Skim over the test until you find an easy question, and answer it. Getting even one circle filled in gets you into the test-taking groove.
- **Take a mental break.** Everyone loses concentration once in a while during a long test. It's normal, so you shouldn't worry about it. Instead, accept what has happened. Say to yourself, "Hey, I lost it there for a minute. My brain is taking a break." Put down your pencil, close your eyes, and do some deep breathing for a few seconds. Then you're ready to go back to work.

Try these techniques ahead of time, and see if they work for you!

Step 3— Make a Plan

Time to complete: 15 minutes

Activity: Construct a study plan

Maybe the most important thing you can do to get control of yourself and your exam is to make a study plan. Too many students fail to prepare simply because they fail to plan. Spending hours on the day before the exam

poring over sample test questions not only raises your level of test anxiety, it also is simply no substitute for careful preparation and practice over time.

Don't fall into the cram trap. Take control of your preparation time by mapping out a study schedule. All the instructional material you will need to study for the test is in Chapters 6–12. The best way to devise your study plan is to simply read the chapters and then do the HSPT or COOP in Chapter 4 or 5 of this book. After that, you can base your plan on your scores in the individual tests, concentrating on the areas that give you the most trouble.

On the following pages are two schedules of what you should do when, based on how much time you have before you take the exam.

Even more important than making a plan is making a commitment or promise to yourself. You can't improve your skills overnight. You have to set aside some time every day for study and practice. Try for at least 30 minutes a day. Thirty minutes daily will do you much more good than two hours on Saturday.

If you have months before the exam, you're lucky. Don't put off your study until the week before the exam. Start now. A few minutes a day, with half an hour or more on weekends, can make a big difference in your score.

Step 4—

Learn to Manage Your Time

Time to complete: 10 minutes to read, many hours of practice!

Activities: Practice these strategies as you take the sample tests in this book

Steps 4,5, and 6 of the EasySmart Test Preparation System put you in charge of your exam by showing you testtaking strategies that work. Practice these strategies as you take the sample tests in this book, and then you'll be ready to use them on test day.

First, you'll take control of your time on the exam. The HSPT and COOP both have time limits:

HSPT

Part 1, Verbal Skills: 60 questions, 16 minutes

Part 2, Quantitative Skills: 52 questions, 30 minutes

Part 3, Reading: 62 questions, 25 minutes

Part 4, Mathematics: 64 questions, 45 minutes

Part 5, Language Skills: 60 questions, 25 minutes

COOP

Test 1, Sequences: 20 questions, 15 minutes

Test 2, Analogies: 20 questions, 7 minutes

Test 3, Memory: 20 questions, 5 minutes

Test 4, Verbal Reasoning: 20 questions, 15 minutes

(continued on page 10)

Schedule A—
The One-Month Plan

If you have about one month in which to prepare, you're lucky! Make the most of your time.

Time	Preparation
Exam minus 1 month	If you're taking the HSPT, take the practice exam in Chapter 4. If you're taking the COOP, use the exam in Chapter 5. Based on your score on the individual sections of your exam, decide where to concentrate your study time. Use the table at the end of your exam chapter to show you which chapters in this book correspond to which sections of your exam. During the rest of this week, work on the chapter that corresponds to the one area that gave you the most trouble on your practice test.
Exam minus 3 weeks	Work through the chapters in this book that correspond to any of the sections of your exam that gave you even the slightest amount of trouble. Be sure to do all the practice exercises in each chapter.
Exam minus 2 weeks	Now work through the chapters that cover the parts of the exam that you found easiest, just for review. When you've finished those chapters, go back to one or two areas that you still feel shaky about.
Exam minus 1 week	Take the second practice test, either HSPT Exam 2 (Chapter 13) or COOP Exam 2 (Chapter 14). Use your score to help you see how much you've improved, and then, again, review the areas that give you the most trouble.
Exam minus 1 day	Relax. Do something unrelated to the exam. Eat a good meal and go to bed at your usual time.

Schedule B—
The One-Week Plan

If you only have about one week before the exam, you have your work cut out for you. Make the most of your time by sticking close to a study schedule.

Time	Preparation
Exam minus 7 days	Take me first practice exam: Chapter 4 for HSPT, Chapter 5 for COOP. Score your exam, and make a note of the sections in which your score is lowest.
Exam minus 6 days	Based on your score on the first practice exam, work through the chapter that covers the part of the exam you found most difficult. Use the table at the end of the practice exam to help you see which chapter this should be. When you get to that chapter in this plan, review it.
Exam minus 5 days	If you're studying for HSPT, read Chapters 6 and 8. If you're studying for COOP, read Chapters 7 and 8. Be sure to do all the exercises.
Exam minus 4 days	HSPT: Chapters 9 and 10. COOP: Chapters 9 and 11.
Exam minus 3 days	HSPT: Chapters 11 and 12. COOP: Chapter 12.
Exam minus 2 days	Take the second practice exam in this book: Chapter 13 for HSPT or Chapter 14 for COOP. See how much you've improved.
Exam minus 1 day	Relax. Do something unrelated to the exam. Eat a good meal and go to bed at a reasonable hour.

Test 5, Reading Comprehension: 40 questions, 40 minutes

Test 6, Mathematics Concepts and Applications: 40 questions, 35 minutes

Test 7, Language Expression: 40 questions, 30 minutes

You might have enough time to complete all the questions in a given section—or you may not. It's a terrible feeling to hear the examiner say, "Five minutes left," when you're only three-quarters of the way through the test. Here are some tips to keep that from happening *to you*.

- **Follow directions.** If the directions are given orally, listen to them. If they're written on the exam booklet, read them carefully. Ask questions *before* the exam begins if there's anything you don't understand. In your exam booklet, write down the beginning time and the ending time of the exam.
- **Pace yourself.** Glance at your watch every ten or fifteen minutes, and compare the time to how far you've gotten in the exam. When one-quarter of the time has elapsed, you should be a quarter of the way through the exam, and so on. If you're falling behind, pick up the pace a bit.
- **Keep moving.** Don't dither around on one question. If you don't know the answer, skip the question and move on. Circle the number of the question in your test booklet in case you have time to come back to it later.
- **Keep track of your place on the answer sheet.** If you skip a question, make sure you skip on the answer sheet too. Check yourself every 5–10 questions to make sure the question number and the answer sheet number are still the same.
- **Don't rush.** Though you should keep moving, rushing won't help. Try to keep calm and work methodically and quickly.

Step 5—

Learn to Use the Process of Elimination

Time to complete: 20 minutes

Activity: Complete worksheet on Using the Process of Elimination

After time management, your next most important tool for taking control of your exam is using the process of elimination wisely—that is, learn to eliminate wrong answers as a first step. You should always read all the answer choices before choosing your answer. This helps you find the right answer by eliminating wrong answer choices.

Let's say you're facing a reading comprehension question that goes like this:

13. According to the passage above, "Biology uses a binomial system of classification." In the context of the passage, the word *binomial* most nearly means
- a. understanding the law
 - b. having two names
 - c. scientifically sound
 - d. having a double meaning

If you happen to know what *binomial* means, of course, you don't need to use the process of elimination, but let's assume that you don't. So you look at the answer choices. "Understanding the law" doesn't sound likely for something having to do with biology. So you eliminate choice **a**—and now you only have three answer choices to deal with. Mark an X next to choice **a** so you never have to read it again.

On to the other answer choices. If you know that the prefix *bi*-means *two*, as in *bicycle*, you'll flag answer **b** as a possible answer. Mark a check mark beside it, meaning "good answer, I might use this one."

Choice **c**, "scientifically sound," is a possibility. At least it's about science, not law. It could work here, though, when you think about it, having a "scientifically sound" classification system in a scientific field is kind of redundant. You remember the *bi* thing in *binomial*, and probably continue to like answer **b** better. But you're not sure, so you put a question mark next to **c**, meaning "well, maybe."

Now, choice **d**, "having a double meaning." You're still keeping in mind that *bi*-means *two*, so this one looks possible at first. But then you look again at the sentence the word belongs in, and you think, "Why would biology want a system of classification that has two meanings? That wouldn't work very well!" If you're really taken with the idea that *bi* means *two*, you might put a question mark here. But if you're feeling a little more confident, you'll put an X. You've already got a better answer picked out.

Now your question looks like this:

13. "Biology uses a binomial system of classification." In this sentence, the word binomial most nearly means

- a. understanding the law
- b. having two names
- c. scientifically sound
- d. having a double meaning

You've got just one check mark, for a good answer. If you're pressed for time, you should simply mark answer **b** on your answer sheet. If you've got the time to be extra careful, you could compare your check-mark answer to your question-mark answers to make sure that it's better. (It is: the *binomial* system in biology is the one that gives a two-part genus and species name like *homo sapiens*.)

It's good to have a system for marking good, bad, and maybe answers. We're recommending this one:

- = bad
- ✓ = good
- ? = maybe

If you don't like these marks, invent your own system. Just make sure you do it long before test day—while you're working through the practice exams in this book—so you won't have to worry about it during the test.

Even when you think you're absolutely clueless about a question, you can often use process of elimination to get rid of one answer choice. If so, you're better prepared to make an educated guess, as you'll see in Step 6. More often, the process of elimination allows you to get down to only *two* possibly right answers. Then you're in

a strong position to guess. And sometimes, even though you don't know the right answer, you find it simply by getting rid of the wrong ones, as you did in the example above.

Try using your powers of elimination on the questions in the worksheet "Using the Process of Elimination" below. The answer explanations on the next page show one possible way you might use the process to arrive at the right answer.

The process of elimination is your tool for the next step, which is knowing when to guess.

Using the Process of Elimination

Use the process of elimination to answer the following questions. (These questions are extra difficult to force you to use elimination.)

1. Ilsa is as old as Meghan will be in five years. The difference between Ed's age and Meghan's age is twice the difference between Ilsa's age and Meghan's age. Ed is 29. How old is Ilsa?

- a.** 4
- b.** 10
- c.** 19
- d.** 24

2. "All drivers of commercial vehicles must carry a valid commercial driver's license whenever operating a commercial vehicle." According to this sentence, which of the following people need NOT carry a commercial driver's license?

- a.** a truck driver idling his engine while waiting to be directed to a loading dock
- b.** a bus operator backing her bus out of the way of another bus in the bus lot
- c.** a taxi driver driving his personal car to the grocery store
- d.** a limousine driver taking the limousine to her home after dropping off her last passenger of the evening

3. Smoking tobacco has been linked to

- a.** increased risk of stroke and heart attack
- b.** all forms of respiratory disease
- c.** increasing mortality rates over the past ten years
- d.** juvenile delinquency

4. Which of the following words is spelled correctly?

- a.** incorrigible
- b.** outragous
- c.** domestickated
- d.** understandable

Answers

Here are the answers, as well as some suggestions as to how you might have used the process of elimination to find them.

- 1. d.** You should have eliminated answer **a** off the bat. Ilsa can't be four years old if Meghan is going to be Ilsa's age in five years. The best way to eliminate other answer choices is to try plugging them in to the information given in the problem. For instance, for answer **b**, if Ilsa is 10, then Meghan must be 5. The difference in their ages is 5. The difference between Ed's age, 29, and Meghan's age, 5, is 24. Is 24 two times 5? No. Then answer **b** is wrong. You could eliminate answer **c** in the same way and be left with answer **d**.
- 2. c.** Note the word *not* in the question, and go through the answers one by one. Is the truck driver in choice **a** "operating a commercial vehicle"? Yes, idling counts as "operating," so he needs to have a commercial driver's license. Likewise, the bus operator in answer **b** is operating a commercial vehicle; the question doesn't say the operator has to be on the street. The limo driver in **d** is operating a commercial vehicle, even if it doesn't have passenger in it. However, the cabbie in answer **c** is *not* operating a commercial vehicle, but his own private car.
- 3. a.** You could eliminate answer **b** simply because of the presence of the word *all*. Such absolutes hardly ever appear in correct answer choices. Choice **c** looks attractive until you think a little about what you know—aren't *fewer* people smoking these days, rather than more? So how could smoking be responsible for a higher mortality rate? (If you didn't know that *mortality rate* means the rate at which people die, you might keep this choice as a possibility, but you'd still be able to eliminate two answers and have only two to choose from.) And choice **d** is plain silly, so you could eliminate that one, too. And you're left with the correct choice, **a**.
- 4. a.** How you used the process of elimination here depends on which words you recognized as being spelled incorrectly. If you knew that the correct spellings were *outrageous*, *domesticated*, and *understandable*, then you were home free. Surely you knew that at least one of those words was wrong!

Step 6— Know When to Guess

Time to complete: 20 minutes

Activity: Complete worksheet on Your Guessing Ability

Armed with the process of elimination, you're ready to take control of one of the big questions in test-taking: Should I guess? The first and main answer is Yes. Unless an exam has a so-called "guessing penalty," you have nothing to lose and everything to gain from guessing. The more complicated answer depends on you—your personality and your "guessing intuition."

Neither the COOP nor the HSPT has a guessing penalty. The number of questions you answer right is what is important, and there's no penalty for wrong answers. So simply go ahead and guess. But try not to guess wildly unless you absolutely have to. Remember to read the question carefully. You may know more about the subject than you think. Use the process of elimination as outlined in Step 5.

"Yes," you might say, "but the whole idea of guessing makes me nervous. I'm not good at guessing." Maybe, maybe not. Maybe you're not much of a risk-taker, so you don't like to guess. But remember, nothing bad can happen to you if you're wrong.

But maybe you really think you have lousy intuition. It seems like, when you have to guess, you *always* guess wrong! Test out your guessing ability. Complete the worksheet Your Guessing Ability to get an idea of how good or bad your guessing ability really is.

Remember, nothing can happen to you if you're wrong.

Step 7— Reach Your Peak Performance Zone

Time to complete: 10 minutes to read; weeks to complete!

Activity: Complete the Physical Preparation Checklist

To get ready for a challenge like a big exam, you have to take control of your physical, as well as your mental, state. Exercise, proper diet, and rest will ensure that your body works with, rather than against, your mind on test day, as well as during your preparation.

Exercise

Exercise helps reduce stress by pumping wonderful good-feeling hormones called endorphins into your system. It also increases the oxygen supply throughout your body, including your brain, so you'll be at peak performance on test day.

If you're used to plopping down in front of the TV the minute you get home from school everyday—don't! A half hour or more of vigorous activity—enough to raise a sweat—every day should be your aim. Go jogging, play active sports with your friends,—anything to get the blood pumping!

But don't overdo. You don't want to exhaust yourself. Moderation is the key.

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Your Guessing Ability

The following are ten really hard questions. You're not supposed to know the answers. Rather, this is an assessment of your ability to guess when you don't have a clue. Read each question carefully, just as if you did expect to answer it. If you have any knowledge at all of the subject of the question, use that knowledge to help you eliminate wrong answer choices. Use this answer grid to till in your answers to the questions.

Answer Grid

1. a b c d
 2. a b c d
 3. a b c d
 4. a b c d

5. a b c d
 6. a b c d
 7. a b c d
 8. a b c d

9. a b c d
 10. a b c d

1. September 7 is Independence Day in

- a. India
- b. Costa Rica
- c. Brazil
- d. Australia

2. Which of the following is the formula for determining the momentum of an object?

- a. $p = mv$
- b. $F = ma$
- c. $P = IV$
- d. $E = mc^2$

3. Because of the expansion of the universe, the stars and other celestial bodies are all moving away from each other. This phenomenon is known as

- a. Newton's first law
- b. the big bang
- c. gravitational collapse
- d. Hubble flow

4. American author Gertrude Stein was born in

- a. 1713
- b. 1830
- c. 1874
- d. 1901

5. Which of the following is NOT one of the Five Classics attributed to Confucius?

- a. the I Ching
- b. the Book of Holiness
- c. the Spring and Autumn Annals
- d. the Book of History

6. The religious and philosophical doctrine that holds that the universe is constantly in a struggle between good and evil is known as

- a. Pelagianism
- b. Manichaeanism
- c. neo-Hegelianism
- d. Epicureanism

7. The third Chief Justice of the U.S. Supreme Court was

- a. John Blair
- b. William Gushing
- c. James Wilson
- d. John Jay

8. Which of the following is the poisonous portion of a daffodil?

- a. the bulb
- b. the leaves
- c. the stem
- d. the flowers

9. The winner of the Masters golf tournament in 1953 was

- a. Sam Snead
- b. Cary Middlecoff
- c. Arnold Palmer
- d. Ben Hogan

10. The state with the highest per capita personal income in 1980 was

- a. Alaska
- b. Connecticut
- c. New York
- d. Texas

Answers

- | | | |
|-------|-------|--------|
| 1. c. | 5. b. | 9. d. |
| 2. a. | 6. b. | 10. a. |
| 3. d. | 7. b. | |
| 4. c. | 8. a. | |

How Did You Do?

You may have simply gotten lucky and actually known the answer to one or two questions. In addition, your guessing was more successful if you were able to use the process of elimination on any of the questions. Maybe you didn't know who the third Chief Justice was (question 7), but you knew that John Jay was the first. In that case, you would have eliminated answer **d** and therefore improved your odds of guessing right from one in four to one in three.

According to probability, you should get 2 1/2 answers correct, so getting either two or three right would be average. If you got four or more right, you may be a really terrific guesser. If you got one or none right, you may be a really bad guesser.

Keep in mind, though, that this is only a small sample. You should continue to keep track of your guessing ability as you work through the sample questions in this book. Circle the numbers of questions you guess on as you make your guess; or, if you don't have time while you take the practice tests, go back afterward and try to remember which questions you guessed at. Remember, on a test with five answer choices, your chances of getting a right answer is one in five. So keep a separate "guessing" score for each exam. How many questions did you guess on? If the number you got right is at least one-fifth of the number of questions you guessed on, you are at least an average guesser, maybe better—and you should always go ahead and guess on the real exam. If the number you got right is significantly lower than one-fifth of the number you guessed on, maybe you're not such a good guesser. Since there's no guessing penalty you would, frankly, be safe in guessing anyway, but maybe you'd feel more comfortable if you guessed only selectively, when you can eliminate a wrong answer or at least have a good feeling about one of the answer choices.

Diet

First of all, cut out the junk. Promise yourself a binge of pizza or french fries the night after the exam, if need be.

What your body needs for peak performance is simply a balanced diet. Eat plenty of fruits and vegetables, along with protein and carbohydrates. Foods that are high in lecithin (an amino acid), such as fish and beans, are especially good "brain foods."

The night before the exam, you might "carbo-load" the way athletes do before a contest. Eat a big plate of spaghetti, rice and beans, or whatever your favorite carbohydrate is.

Rest

Make sure you do get enough sleep for at least a week before the exam. Moderation is important here, too. Extra sleep will just make you groggy. But a solid 8 or even 9 hours a night is a must.

If you're not a morning person and your exam will be given in the morning, you should reset your internal clock so that your body doesn't think you're taking an exam at 3 a.m. You have to start this process well before the exam. The way it works is to get up half an hour earlier each morning, and then go to bed half an hour earlier that night. Don't try it the other way around; you'll just toss and turn if you go to bed early without having gotten up early. The next morning, get up another half an hour earlier, and so on. How long you will have to do this depends on how late you're used to getting up.

Step 8—**Get Your Act Together**

Time to complete: 10 minutes to read; time to complete will vary

Activity: Complete Final Preparations worksheet

You're in control of your mind and body; you're in charge of test anxiety, your preparation, and your test-taking strategies. Now it's time to take charge of external factors, like the testing site and the materials you need to take to the exam.

Find out Where the Test Is and Make a Trial Run

You'll know ahead of time when and where your exam is being held. But do you know—or does the adult who will be driving know—how to get to the testing site? Do you know how long it will take to get there? If not, make a trial run, preferably on the same day of the week at the same time of day. Make note, on the worksheet Final Preparations, of the amount of time it will take you to get to the exam site. Plan on arriving 10–15 minutes early so you can get the lay of the land, use the bathroom, and calm down. Then figure out how early you will have to get up that morning, and make sure you get up that early every day for a week before the exam.

(continued on page 20)

Physical Preparation Checklist

For the week before the test, write down 1) what physical exercise you engaged in and for how long, and 2) what you ate for each meal. Remember, you're trying for at least half an hour of exercise every other day (preferably every day) and a balanced diet that's light on junk food.

Exam minus 7 days

Exercise: _____ for _____ minutes

Breakfast: _____

Lunch: _____

Dinner: _____

Snacks: _____

Exam minus 6 days

Exercise: _____ for _____ minutes

Breakfast: _____

Lunch: _____

Dinner: _____

Snacks: _____

Exam minus 5 days

Exercise: _____ for _____ minutes

Breakfast: _____

Lunch: _____

Dinner: _____

Snacks: _____

Exam minus 4 days

Exercise: _____ for _____ minutes

Breakfast: _____

Lunch: _____

Dinner: _____

Snacks: _____

Exam minus 3 days

Exercise: _____ for _____ minutes

Breakfast: _____

Lunch: _____

Dinner: _____

Snacks: _____

Exam minus 2 days

Exercise: _____ for _____ minutes
Breakfast: _____
Lunch: _____
Dinner: _____
Snacks: _____

Exam minus 1 days

Exercise: _____ for _____ minutes
Breakfast: _____
Lunch: _____
Dinner: _____
Snacks: _____

Gather Your Materials

The night before the exam, lay out the clothes you will wear and the materials you have to bring with you to the exam. Plan on dressing in layers; you won't have any control over the temperature of the examination room. Have a sweater or jacket you can take off if it's warm. Use the checklist on the worksheet Final Preparations to help you pull together what you'll need.

Don't Skip Breakfast

Even if you don't usually eat breakfast, do so on exam morning. Don't do doughnuts or other sweet foods. A sugar high will leave you with a sugar low in the middle of the exam. A mix of protein and carbohydrates is best: cereal with milk and just a little sugar, or eggs with toast, will do your body a world of good.

Step 9—**Do It!****Time to complete: 5 minutes, plus test-taking time****Activity: Ace the test!**

Fast forward to exam day. You're ready. You made a study plan and followed through. You practiced your test-taking strategies while working through this book. You're in control of your physical, mental, and emotional state. You know when and where to show up and what to bring with you. In other words, you're better prepared than most of the other people taking the HSPT or COOP with you. You're psyched.

Just one more thing. When you're done with the test, you will have earned a reward. Plan a celebration for exam night. Call up your friends and plan a party, if you can. Ask permission for a sleepover or a movie. Give yourself something to look forward to.

And then do it. Go into the exam full of confidence, armed with test-taking strategies you've practiced till they're second nature. You're in control of yourself, your environment, and your performance on the exam. You're ready to succeed. So do it. Go in there and ace the exam. And look forward to your high school career!

Final Preparations

Getting to the Exam Site

Location of exam: _____

Date of exam: _____

Time of exam: _____

Do I know how to get to the exam site? Yes _____ No _____

If no, make a trial run.

Time it will take to get to exam site: _____

Things to lay out the night before the exam

Clothes I will wear _____

Sweater/jacket _____

Watch _____

Admission card _____

Social Security number _____

2 No. 2. pencils _____

2 pens _____

Chapter 4— Practice HSPT Exam 1

Chapter Summary

This is the first of the two practice tests in this book based on the High School Placement Test (HSPT) used by many Catholic high schools as an admissions test. Use this practice exam to see how you would do if you were to take the exam today.

This practice exam is of the same type as the real High School Placement Test you will be taking. Like the real exam, it is divided into five parts, covering five general skill areas, subdivided and timed as follows:

- **Part 1: Verbal Skills.** 60 questions in 16 minutes

Verbal Analogies, 10 questions

Synonyms, 15 questions

Logic, 10 questions

Verbal Classification, 16 questions

Antonyms, 9 questions

- **Part 2: Quantitative Skills.** 52 questions in 30 minutes

Number Series, 18 questions

Geometric Comparison, 9 questions

Nongeometric Comparison, 8 questions

Number Manipulation, 17 questions

- **Part 3: Reading.** 62 questions in 25 minutes

Comprehension, 40 questions

Vocabulary, 22 questions

Part 1—
Verbal Skills

1. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
2. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
3. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
4. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
5. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
6. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
7. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
8. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
9. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
10. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
11. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
12. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
13. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
14. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
15. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
16. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
17. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
18. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
19. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
20. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
21. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
22. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
23. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
24. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
25. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
26. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
27. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
28. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
29. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
30. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
31. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
32. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
33. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
34. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
35. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
36. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
37. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
38. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
39. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
40. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
41. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
42. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
43. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
44. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
45. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
46. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
47. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
48. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
49. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
50. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
51. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
52. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
53. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
54. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
55. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
56. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
57. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
58. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
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60. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d

Part 2—
Quantitative Skills

61. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
62. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
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64. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
65. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
66. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
67. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
68. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
69. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
70. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
71. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
72. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
73. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
74. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
75. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
76. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
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79. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
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81. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
82. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
83. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
84. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
85. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
86. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
87. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
88. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
89. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
90. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
91. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
92. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
93. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
94. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
95. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
96. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
97. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
98. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
99. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
100. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
101. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
102. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
103. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
104. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
105. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
106. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
107. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
108. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
109. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
110. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
111. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d
112. <input type="radio"/> a	<input type="radio"/> b	<input type="radio"/> c	<input type="radio"/> d

Part 3—
Reading Skills

113. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	134. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	155. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
114. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	135. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	156. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
115. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	136. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	157. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
116. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	137. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	158. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
117. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	138. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	159. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
118. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	139. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	160. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
119. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	140. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	161. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
120. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	141. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	162. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
121. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	142. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	163. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
122. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	143. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	164. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
123. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	144. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	165. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
124. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	145. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	166. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
125. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	146. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	167. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
126. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	147. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	168. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
127. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	148. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	169. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
128. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	149. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	170. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
129. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	150. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	171. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
130. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	151. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	172. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
131. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	152. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	173. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
132. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	153. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	174. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
133. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	154. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Part 4—
Mathematics

175. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	197. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	219. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
176. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	198. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	220. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
177. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	199. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	221. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
178. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	200. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	222. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
179. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	201. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	223. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
180. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	202. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	224. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
181. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	203. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	225. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
182. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	204. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	226. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
183. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	205. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	227. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
184. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	206. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	228. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
185. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	207. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	229. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
186. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	208. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	230. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
187. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	209. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	231. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
188. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	210. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	232. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
189. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	211. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	233. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
190. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	212. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	234. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
191. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	213. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	235. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
192. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	214. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	236. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
193. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	215. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	237. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
194. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	216. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	238. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
195. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	217. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
196. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	218. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Part 5—
Language Skills

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| 239. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 259. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 279. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 240. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 260. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 280. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 241. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 261. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 281. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 242. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 262. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 282. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 243. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 263. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 283. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 244. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 264. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 284. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 245. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 265. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 285. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 246. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 266. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 286. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 247. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 267. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 287. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 248. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 268. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 288. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 249. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 269. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 289. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 250. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 270. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 290. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 251. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 271. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 291. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 252. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 272. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 292. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 253. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 273. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 293. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 254. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 274. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 294. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 255. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 275. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 295. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 256. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 276. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 296. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 257. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 277. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 297. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 258. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 278. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 298. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |

• **Part 4: Mathematics.** 64 questions in 45 minutes

Concepts, 42 questions

Problem Solving, 40 questions

• **Part 5: Language Skills.** 60 questions in 25 minutes

Punctuation and Capitalization, 12 questions Usage, 28 questions

Spelling, 10 questions

Composition, 10 questions

In the real exam each part is timed, but for now don't worry too much about timing. Just find a quiet place and some sharpened number 2 pencils. Then take this practice test in as relaxed a manner as you can to find out which areas you are skilled in and which ones will need extra work. You can follow the time limits when you take the second exam.

The answer sheet you should use is on pages 2–4. Then comes the exam itself, followed by the answer key. In the key, the correct answers are explained in detail. Be sure to read these explanations in order to find out why the correct answers are right and the incorrect answers wrong. The answer key is then followed by a section on how to score your exam.

PART 1: VERBAL SKILLS

Time: 16 minutes

1. Which word does NOT belong with the others?

- a. leopard
- b. cougar
- c. elephant
- d. lion

2. Which word does NOT belong with the others?

- a. baffle
- b. falter
- c. hesitate
- d. waver

3. Randy is taller than Wendell. Luis is taller than Randy. Wendell is taller than Luis. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

4. Saturate most nearly means

- a. deprive
- b. construe
- c. soak
- d. verify

5. An inventive person is

- a. creative
- b. mechanical
- c. industrious
- d. productive

6. Cup is to coffee as bowl is to

- a. dish
- b. soup
- c. spoon
- d. food

7. Marathon is to race as hibernation is to

- a. winter
- b. bear
- c. nap
- d. sleep

8. Which word does NOT belong with the others?

- a. flute
- b. violin
- c. saxophone
- d. trumpet

9. Punctual means the OPPOSITE of

- a. random
- b. smooth
- c. intermittent
- d. tardy

10. Communication is to telephone as transportation is to

- a. aviation
- b. travel
- c. information
- d. bus

11. Tactful is to diplomatic as bashful is to

- a. timid
- b. confident
- c. uncomfortable
- d. bold

12. Synopsis most nearly means

- a. stereotype
- b. abundance
- c. summary
- d. verification

13. A vast prairie is

- a. empty
- b. immense
- c. steady
- d. slight

14. During the past year, Zoe read more books than Jenna. Jenna read fewer books than Heather. Heather read more books than Zoe. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

15. Scarcely is to mostly as quietly is to

- a. secretly
- b. rudely
- c. loudly
- d. silently

16. Grant means the OPPOSITE of

- a. deny
- b. consume
- c. allocate
- d. provoke

17. Which word does NOT belong with the others?

- a. mayor
- b. lawyer
- c. governor
- d. senator

18. Which word does NOT belong with the others?

- a. rayon
- b. silk
- c. cotton
- d. cloth

19. All of the houses on Reynolds Road have roofs made of shingles. No shingles are purple. None of the houses on Reynolds Road have purple roofs. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

20. Baker is to bread as congressman is to

- a. senator
- b. law
- c. state
- d. politician

21. Intrepid most nearly means

- a. belligerent
- b. consistent
- c. timid
- d. fearless

22. Statute most nearly means

- a. replica
- b. ordinance
- c. collection
- d. hypothesis

23. Middle town is north of Centerville. Centerville is east of Penfield. Penfield is northwest of Middletown. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

24. Battery X lasts longer than Battery Y. Battery Y doesn't last as long as Battery Z. Battery Z lasts longer than Battery X. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

25. Which word does NOT belong with the others?

- a. unimportant
- b. trivial
- c. insignificant
- d. familiar

26. Which word does NOT belong with the others?

- a. book
- b. index
- c. glossary
- d. chapter

27. Virtue means the OPPOSITE of

- a. reality
- b. fact
- c. vice
- d. amateur

28. Liberate means the OPPOSITE of

- a. conserve
- b. restrain
- c. attack
- d. ruin

29. Which word does NOT belong with the others?

- a. noun
- b. preposition
- c. punctuation
- d. adverb

30. A sage person is

- a. wise
- b. obnoxious
- c. conceited
- d. heartless

31. Obscure most nearly means

- a. hidden
- b. obvious
- c. reckless
- d. subjective

32. Play is to actor as concert is to

- a. symphony
- b. musician
- c. piano
- d. percussion

33. All spotted Gangles have long tails. Short-haired Gangles always have short tails. Long-tailed Gangles never have short hair. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

34. Requirement means the OPPOSITE of

- a. plan
- b. consequence
- c. option
- d. accident

35. Pacify means the OPPOSITE of

- a. complicate
- b. dismiss
- c. excite
- d. liberate

36. Which word does NOT belong with the others?

- a. cornea
- b. retina
- c. pupil
- d. vision

37. The temperature on Monday was lower than on Tuesday. The temperature on Wednesday was lower than on Tuesday. The temperature on Monday was higher than on Wednesday. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

38. Validate most nearly means

- a. confirm
- b. retrieve
- c. communicate
- d. appoint

39. Antagonist most nearly means

- a. comrade
- b. opponent
- c. master
- d. perfectionist

40. Which word does NOT belong with the others?

- a. rye
- b. sourdough
- c. pumpernickel
- d. loaf

41. Pride is to lion as school is to

- a. teacher
- b. student
- c. self-respect
- d. fish

42. Control is to dominate as magnify is to

- a. enlarge
- b. preserve
- c. decrease
- d. divide

43. Enumerate most nearly means

- a. pronounce
- b. count
- c. explain
- d. plead

44. An impartial jury is

- a. complete
- b. prejudiced
- c. fair
- d. emotional

45. Rooms at the Cozy Inn cost less than rooms at the Hide-Away Motel. Rooms at the Hotel Victoria cost more than rooms at the Hide-Away Motel. Of the three, the Hotel Victoria costs the most. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

46. Which word does NOT belong with the others?

- a. inch
- b. ounce
- c. centimeter
- d. yard

47. Imaginary means the OPPOSITE of

- a. sober
- b. ordinary
- c. realistic
- d. factual

48. Faltering means the OPPOSITE of

- a. steady
- b. adoring
- c. explanatory
- d. reluctant

49. Which word does NOT belong with the others?

- a. street
- b. freeway
- c. interstate
- d. expressway

50. Bicycle is to pedal as canoe is to

- a. water
- b. kayak
- c. oar
- d. fleet

51. Humidify most nearly means

- a. moisten
- b. warm
- c. gather
- d. spray

52. Eternal most nearly means

- a. timeless
- b. heavenly
- c. loving
- d. wealthy

53. Which word does NOT belong with the others?

- a. sleeve
- b. pocket
- c. collar
- d. shirt

54. Which word does NOT belong with the others?

- a. dodge
- b. flee
- c. duck
- d. avoid

55. Girl Scout Troop 101 sells more cookies than Troop 102. Troop 103 sells fewer cookies than Troop 102. Troop 101 sold more cookies than Troop 103. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

56. Andre jumps higher than Rodney. James jumps higher than Andre. Rodney jumps higher than James. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

57. A plausible argument is

- a. insufficient
- b. apologetic
- c. unusual
- d. believable

58. Which word does NOT belong with the others?

- a. heading
- b. body
- c. closing
- d. letter

59. Which word does NOT belong with the others?

- a. core
- b. seeds
- c. pulp
- d. slice

60. Levitate means the OPPOSITE of

- a. plod
- b. undulate
- c. whisper
- d. sink

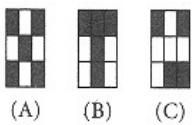
PART 2: QUANTITATIVE SKILLS

Time: 30 minutes

61. Look at this series: 1, 4, 9, 5, 17, What number should come next?

- a. 6
- b. 8
- c. 22
- d. 25

62. Examine (A), (B), and (C) and find the best answer.



- a. (A) is more shaded than (B).
- b. (B) is less shaded than (C).
- c. (A) and (B) are equally shaded.
- d. (B) and (C) are equally shaded.

63. What number is 3 more than 20% of 100?

- a. 17
- b. 23
- c. 28
- d. 123

64. Examine (A), (B), and (C) and find the best answer.

- (A) $3 + (2 - 1)$
- (B) $8 - (2 \times 2)$
- (C) 10 divided by $(1 + 1)$

- a. (A) and (B) are equal.
- b. (C) is greater than (B).
- c. (A) is greater than (B) but less than (C).
- d. (C) is greater than (B) but less than (A).

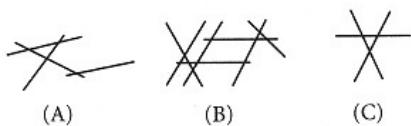
65. Look at this series: 567, 542, 517, 492, What number should come next?

- a. 499
- b. 483
- c. 477
- d. 467

66. Look at this series: 9, 12, 11, 14, 13, 16, 15, What two numbers should come next?

- a. 14, 13
- b. 8, 21
- c. 14, 17
- d. 18, 17

67. Examine (A), (B), and (C) and find the best answer.



- a. The number of lines in (A) and (C) together equals the number of lines in (B).
- b. The number of lines in (B) is five more than the number of lines in (C).
- c. The number of lines in (A) is two more than the number of lines in (B).
- d. The number of lines in (B) and (C) together is five more than the number of lines in (A).

68. What number is 7 less than $\frac{3}{4}$ of 20?

- a. -2
- b. 8
- c. 10
- d. 13

69. Examine (A), (B), and (C) and find the best answer.

- (A) $\frac{1}{3}$ of 12
- (B) 4% of 100
- (C) $\frac{1}{5}$ of 10

- a. (A) is less than (C).
- b. (A) and (B) are equal.
- c. (A) plus (B) is equal to (C).
- d. (C) is greater than (B).

70. What number is 2 less than 3% of 200?

- a. 1
- b. 4
- c. 22
- d. 58

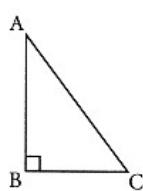
71. What number divided by 6 is $\frac{1}{2}$ of 18?

- a. 9
- b. 24
- c. 36
- d. 54

72. Look at this series: 1, $\frac{7}{8}$, $\frac{3}{4}$, $\frac{5}{8}$, What number should come next?

- a. $\frac{2}{3}$
- b. $\frac{1}{2}$
- c. $\frac{3}{8}$
- d. $\frac{1}{4}$

73. Examine the triangle and find the best answer.



- a. AB is greater than AC.
- b. AB is less than AC.
- c. BC is greater than AC.
- d. AB is equal to BC.

74. What is 12 more than 30% of 90?

- a. 15
- b. 39
- c. 42
- d. 52

75. Examine (A), (B), and (C) and find the best answer.

- (A) $\frac{1}{2}$ $\frac{1}{4}$
 (B) $\frac{1}{8}$ $\frac{1}{2}$
 (C) $\frac{1}{4}$ $\frac{1}{8}$

- a. (A) is greater than (B) or (C).
- b. (A) is greater than (B) but less than (C).
- c. (C) is greater than (A) or (B).
- d. (B) is greater than (C) but less than (A).

76. Look at this series: 8, 22, 12, 16, 22, 20, 24, What two numbers should come next?

- a. 28, 32
- b. 28, 22
- c. 22, 28
- d. 22, 26

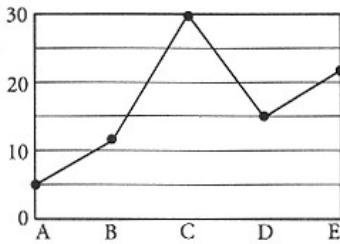
77. What number multiplied by 2 equals $\frac{1}{3}$ of 30?

- a. 20
- b. 15
- c. 12
- d. 5

78. Look at this series: XX, XVI, XII, VIII, What number should come next:

- a. IV
- b. V
- c. VI
- d. III

79. Examine the graph and find the best answer.



- a. (B) is greater than (E).
- b. (C) minus (A) is equal to (B).
- c. (C) minus (E) is equal to (D).
- d. (D) plus (E) is greater than (C).

80. Examine (A), (B), and (C) and find the best answer.

- (A) $3a$
 (B) $2(a + a)$
 (C) $2a + a$

- a. (A) and (B) are equal.
- b. (A) and (C) are equal.
- c. (C) is greater than (B).
- d. (A) and (C) are equal to (B).

81. What number is 7 times 3 divided by $\frac{1}{3}$?

- a. $2\frac{1}{3}$
- b. 7
- c. 63
- d. 84

82. Look at this series: 2, 1, $\frac{1}{2}$, $\frac{1}{4}$, What number should come next?

- a. $\frac{1}{3}$
- b. $\frac{1}{8}$
- c. $\frac{2}{8}$
- d. $\frac{1}{16}$

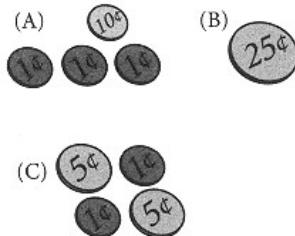
83. Look at this series: 21, 24, 30, 21, 36, 42, What number should come next?

- a. 21
- b. 27
- c. 42
- d. 46

84. What number subtracted from 50 leaves 13 more than $\frac{1}{4}$ of 8?

- a. 15
- b. 25
- c. 27
- d. 35

85. Examine (A), (B), and (C) and find the best answer.



- a. (A) plus (B) is greater than (C).
- b. (A) plus (C) is less than (B).
- c. (C) minus (B) equals (A).
- d. (B) minus (C) equals (A).

86. Look at this series: 53, 53, _, 40, 27, 27, What number should fill the blank?

- a. 14
- b. 38
- c. 40
- d. 51

87. Examine (A), (B), and (C) and find the best answer.

- (A) 120% of 10
- (B) 90% of 15
- (C) 70% of 20

- a. (A) and (C) are equal.
- b. (B) is less than (A).
- c. (A) and (B) are equal to (C).
- d. (B) is greater than (A) but less than (C).

88. What number is 17 less than 140% of 5?

- a. -10
- b. -7
- c. 7
- d. 53

89. Look at this series: 1.5, 2.3, 3.1, 3.9, What number should come next?

- a. 4.2
- b. 4.4
- c. 4.7
- d. 5.1

90. Look at this series: 29, 27, 28, 26, 27, 25, What number should come next?

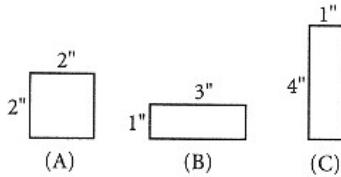
- a. 23
- b. 24
- c. 26
- d. 27

91. Examine (A), (B), and (C) and find the best answer.

- (A) 2^3
- (B) 3^2
- (C) 7

- a. (A) is greater than (B) or (C).
- b. (A) is less than (B) or (C).
- c. (B) is greater than (A) or (C).
- d. (A) and (B) are equal to (C).

92. Examine (A), (B), and (C) and find the best answer.



- a. The area of (A) is equal to the area of (B).
- b. The area of (A) is equal to the area of (C).
- c. The area of (B) is equal to the area of (C).
- d. The area of (A) is less than the area of (B).

93. What number added to 16 more than the same number equals 136?

- a. 152
- b. 120
- c. 72
- d. 60

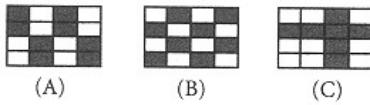
94. Look at this series: 10, 34, 12, 31, __, 28, 16, What number should fill the blank?

- a. 14
- b. 18
- c. 30
- d. 34

95. What number times 8 less than 20% of 60 equals 24?

- a. -6
- b. 6
- c. 18
- d. 34

96. Examine (A), (B), and (C) and find the best answer.



- a. (A) is more shaded than (C).
- b. (A) and (C) are equally shaded.
- c. (B) and (C) are equally shaded.
- d. (B) is less shaded than (A).

97. What number is 5 less than 2 times the same number?

- a. 3
- b. 5
- c. 10
- d. 20

98. What number divided by 3 is 3/5 of 50?

- a. 150
- b. 130
- c. 90
- d. 10

99. Examine (A), (B), and (C) and find the best answer.

- (A) $(1 + 5)^2$
- (B) $3(13 - 2)$
- (C) $(4 + 2) + (12 + 12)$

- a. (A) is greater than (C) but less than (B).
- b. (B) and (C) are equal.
- c. (C) is less than (A) or (B).
- d. (B) is less than (C).

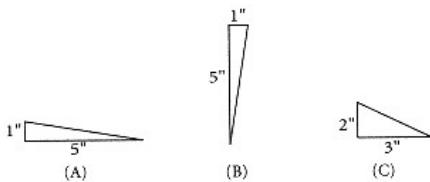
100. Look at this series: 3, 4, 7, 8, 11, 12, What number should come next?

- a. 7
- b. 10
- c. 14
- d. 15

101. What number times 7 is 1/2 of 28?

- a. 2
- b. 4
- c. 21
- d. 56

102. Examine (A), (B), and (C) and find the best answer.



- a. The area of (A), the area of (B), and the area of (C) are all equal.
- b. The area of (A) is equal to the area of (B).
- c. The area of (C) is less than the area of (B).
- d. The area of (A) is greater than the area of (C).

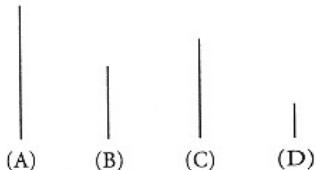
103. Look at this series: J14, L11, N8, P5, What number should come next?

- a. Q2
- b. Q3
- c. R2
- d. S2

104. Look at this series: 31, 29, 24, 22, 17, What number should come next?

- a. 15
- b. 14
- c. 13
- d. 12

105. Examine (A), (B), (C), and (D) and find the best answer.



- a. (A) is longer than (B) but shorter than (C).
- b. (C) is longer than (B) but shorter than (A).
- c. (B) and (C) are equal to (A).
- d. (D) minus (B) is equal to (C).

106. What number times 4 is equal to 72 minus 20?

- a. 208
- b. 48
- c. 13
- d. 7.5

107. Look at this series: VI, 10, V, 11, IV, 12, What number should come next?

- a. VII
- b. III
- c. IX
- d. 13

108. Three times what number plus 50 equals 74?

- a. 8
- b. 24
- c. 41.3
- d. 48

109. Look at this series: 14, 28, 20, 40, 32, 64, What number should come next?

- a. 52
- b. 56
- c. 96
- d. 128

110. Look at this series: 0.2, 1/5, 0.4, 2/5, 0.8, 4/5, What number should come next?

- a. 8/10
- b. 1 3/5
- c. 1.6
- d. 0.16

111. What number is 16 times 1/2 of 10% of 40?

- a. 3.2
- b. 12
- c. 28
- d. 32

112. Examine (A), (B), and (C) and find the best answer.

- (A) 9/5
- (B) 1.6
- (C) 1 3/10

- a. (B) is greater than (C) but less than (A).
- b. (A) is less than (B).
- c. (A) and (C) are equal to (B).
- d. (B) minus (A) is equal to (C).

PART 3: READING

Time: 25 minutes

For questions 113 through 152, read each passage carefully. Answer the questions that follow ONLY on the basis of the preceding passage.

Greyhound racing is the sixth most popular spectator sport in the United States. Over the last decade a growing number of greyhounds have been adopted to live out their retirement as household pets, once their racing career is over.

Many people hesitate to adopt a retired racing greyhound because they think only very old dogs are available. Actually, even champion racers only work until they are about three-and-a-half years old. Since greyhounds usually live to between twelve and fifteen years old, their retirement is much longer than their racing careers.

People worry that a greyhound will be more nervous and active than other breeds and will need a large space to run. These are false impressions. Greyhounds have naturally sweet, mild dispositions, and while they love to run, they are sprinters rather than distance runners. With a few laps around a fenced-in backyard everyday, they are sufficiently exercised.

Greyhounds do not make good watchdogs, but they are very good with children, get along well with other dogs (and usually cats as well), and are affectionate and loyal. They are intelligent, well-behaved dogs, usually housebroken in only a few days. A retired racing greyhound is a wonderful pet for almost anyone.

113. Based on the tone of the passage, the author's main purpose is to

- a. teach prospective owners how to transform their racing greyhound into a good pet
- b. encourage people in the dog-racing business to stop racing greyhounds
- c. encourage people to adopt retired racing greyhounds as pets
- d. objectively present the pros and cons of adopting a racing greyhound

114. The passage promotes the idea that a greyhound is a good pet particularly for people who

- a. do not have children
- b. live in apartments
- c. do not usually like dogs
- d. already have another dog or a cat

115. Which of the following is implied by the passage?

- a. The public is more aware of greyhounds than they used to be.
- b. Greyhounds are more competitive than other dogs.
- c. Greyhound racing should not be allowed.
- d. People who own pet rabbits should not adopt greyhounds.

116. The word impressions, as underlined and used in the passage, most nearly means

- a. beliefs
- b. questions
- c. fictions
- d. troubles

117. The phrase sweet, mild dispositions, as underlined and used in the passage, most nearly means

- a. appetites for sugary foods
- b. pleasing faces
- c. happy but unintelligent natures
- d. easygoing temperaments

118. The passage suggests that more people would adopt retired racing greyhounds if they realized that the dogs

- a. were housebroken
- b. were long-distance runners
- c. were only about three-and-a-half years old
- d. loved to be in groups of other dogs

119. According to the author, greyhounds could best be described as

- a. loving and devoted
- b. shy and retiring
- c. nervous but passive
- d. watchful and independent

120. Families who adopt a greyhound might expect their dog to live

- a. about three or four years
- b. to about the age of five
- c. to about the age of ten
- d. up to the age of fifteen

121. One drawback of adopting a greyhound is that

- a. greyhounds are not good with children
- b. greyhounds are old when they retire from racing
- c. the greyhound's sensitivity makes it temperamental
- d. greyhounds are not good watchdogs

122. A retired racing greyhound available for adoption will most likely be

- a. happy to be retiring
- b. easily housebroken
- c. a champion
- d. high-strung

An ecosystem is a group of animals and plants living in a specific region and interacting with one another and with their physical environment. Ecosystems include physical and chemical components, such as soils, water, and nutrients, that support the organisms living there. These organisms may range from large animals to microscopic bacteria.

Ecosystems also can be thought of as the interactions among all organisms in a given habitat; for instance, one species may serve as food for another. People are part of the ecosystems where they live and work. Human activities can harm or destroy local ecosystems unless actions such as land development for housing or businesses are carefully planned to conserve and sustain the ecology of the area. An important part of ecosystem management involves finding ways to pro-

tect and enhance economic and social well-being while protecting the physical environment.

123. The passage describes an ecosystem as

- a. a community of animals, plants, and bacteria that interact with one another
- b. any human activity that can do great damage to the environment
- c. microscopic bacteria that provide food for plants and animals
- d. a system that provides economic and social protection for a group of people

124. According to the passage, one way ecosystems can be destroyed is by

- a. tiny bacteria
- b. plants and soils
- c. land development
- d. ecosystem management

125. In the second paragraph, the author mainly argues in favor of

- a. protecting ecosystems
- b. the building of more new homes
- c. protecting local businesses
- d. stopping all land development

126. Based on the passage, which of the following is NOT an organism?

- a. a small animal
- b. water
- c. a plant
- d. microscopic bacteria

127. As it is underlined and used in the passage, the word components most nearly means

- a. pollutants
- b. regions
- c. interactions
- d. elements

128. The author uses the underlined term ecosystem management to mean

- a. planning carefully to protect the environment
- b. controlling the number of animals in one area
- c. the amount of soil, water, and nutrients in one ecosystem
- d. the people who live and work in a region

129. The statement "one species may serve as food for another" is an example of

- a. a habitat
- b. social well-being
- c. an interaction
- d. a chemical component

130. The author of this passage most likely believes that ecosystems

- a. can be harmed by people
- b. will soon die out
- c. should not include people
- d. are less important than affordable housing

131. The main purpose of the first paragraph is to

- a. show how delicate ecosystems are
- b. provide a definition of the term *ecosystem*
- c. give the author's opinion regarding the future of ecosystems
- d. show how humans interfere with the plant world

132. The phrase land development, as underlined and used in this passage, most likely refers to

- a. farming a tract of land
- b. transporting animals to another piece of land
- c. polluting the land with harmful chemicals
- d. putting new buildings on the land

One of the most hazardous conditions a firefighter will ever encounter is a backdraft (also known as a smoke explosion). A backdraft can occur in the hotsmoldering phase of a fire when burning is incomplete and there is not enough oxygen to sustain the fire. Unburned carbon particles and other flammable products, combined with the intense heat, may cause instantaneous combustion if more oxygen reaches the fire.

Firefighters should be aware of the conditions that indicate the possibility for a backdraft to occur. When there is a lack of oxygen during a fire, the smoke becomes filled with carbon dioxide or carbon monoxide and turns dense gray or black. Other warning signs of a potential backdraft are little or no visible flame, excessive heat, smoke leaving the building in puff's, muffled sounds, and smoke-stained windows.

Proper ventilation will make a backdraft less likely. Opening a room or building at the highest point allows heated gases and smoke to be released gradually. However, suddenly breaking a window or opening a door is a mistake, as it allows oxygen to rush in, causing an explosion.

133. Which of the following tides best expresses the topic of this passage?

- a. "Backdraft: A Firefighter's Greatest Danger"
- b. "Running Through the Smoke"
- c. "Several Ways to Prevent Backdraft in Your Home"
- d. "When Backdrafts Become Hazardous"

134. Another word for encounter, as it is underlined and used in the passage, is

- a. need
- b. face
- c. establish
- d. solve

135. A backdraft is a dangerous condition for firefighters mainly because

- a. there is not enough oxygen for breathing
- b. the heat is extremely intense
- c. the smoke is dangerously thick
- d. an explosion occurs

136. The word sustain, as underlined and used in the passage, most nearly means

- a. ignite
- b. smother
- c. interrupt
- d. continue

137. Which of the following is NOT mentioned as a potential backdraft warning sign?

- a. windows stained with smoke
- b. flames shooting up from the building
- c. puffs of smoke leaving the building
- d. more intense heat than usual

138. To prevent the possibility of a backdraft, a firefighter should

- a. carry an oxygen tank
- b. open a door to allow gases to escape
- c. make an opening at the top of the building
- d. break a window to release carbon particle

139. When compared with a hot, smoldering fire, a fire with visible, high-reaching flames

- a. has more oxygen available for combustion
- b. has more carbon dioxide available for consumption
- c. produces more dense gray smoke
- d. is more likely to cause a backdraft

140. The author's purpose in writing this selection was most likely to

- a. recruit more people to become firefighters
- b. discourage people from becoming firefighters
- c. warn readers about the dangers backdrafts
- d. warn readers to take all precautions to prevent house fires

141. A firefighter who encounters thick, black smoke should

- a. break a window before entering the building
- b. open all the doors of the building to prevent a backdraft
- c. release the smoke gradually from the top of the building
- d. add more carbon dioxide to the fire

142. The third paragraph describes

- a. how firefighters prepare for a backdraft
- b. ways to prevent a backdraft
- c. the causes of a backdraft
- d. the best way to enter a burning house

Typically people think of genius, whether it manifests in Mozart's composing symphonies at age five or Einstein's discovery of relativity, as having a quality not just of the supernatural but also of the eccentric. People see genius as a "good" abnormality. They also think of genius as a completely unpredictable abnormality.

Until recently, psychologists regarded the quirks of genius as too inconsistent to describe intelligibly. However, a ground-breaking study by Anna Findley has uncovered predictable patterns in the biographies of geniuses. These patterns, however, do not dispel the common belief that there is a kind of supernatural intervention in the lives of unusually talented men and women, even though these patterns occur with regularity. For example, Findley's study shows that all geniuses experience three intensely productive periods in their lives. One of these periods always occurs shortly before the genius's death; this is true whether the genius lives to nineteen or ninety.

143. According to the information presented in the passage, which of the following best sums up the general populace's opinion of genius?

- a. It is predictable and uncommon.
- b. It is scornful and abnormal.
- c. It is unpredictable and erratic.
- d. It is extraordinary and erratic.

144. Which of the following would be the best title for passage?

- a. "Understanding Mozarts and Einsteins"
- b. "Predicting the Life of a Genius"
- c. "The Uncanny Patterns in the Lives of Geniuses"
- d. "Pattern and Disorder in the Lives of Geniuses"

145. The word eccentric, as it is underlined and used in the passage, most nearly means

- a. honored
- b. unusual
- c. intelligent
- d. enthusiastic

146. In which of the following would you expect to find this passage?

- a. a newspaper or magazine article
- b. an advertisement in a magazine
- c. a book on various kinds of mental illness
- d. a novel or short story

147. The word predictable, as it is underlined and used in the passage, most nearly means

- a. undependable
- b. foreseeable
- c. reasonable
- d. careful

148. Given the information in the passage, which of the following statements is true?

- a. Anna Findley is a biographer.
- b. The lives of geniuses are eccentric and unpredictable.
- c. A genius has three very productive times in his or her life.
- d. Mozart discovered relativity.

149. The word dispel, as it is underlined and used in the passage, most nearly means

- a. blot out
- b. allow in
- c. applaud
- d. indicate

150. Findley's study is described as "ground-breaking" most likely because

- a. it was written in an intelligent way
- b. it was conducted by a genius
- c. other psychologists agreed with Findley
- d. it provides information that was not known earlier

151. The tone of this passage could best be described as

- a. gloomy
- b. informative
- c. humorous
- d. joyful

152. The passage gives all of the following pieces of information EXCEPT

- a. what Anna Findley's study discovered
- b. when Mozart began composing music
- c. how many people define genius
- d. why geniuses have three productive periods

For questions 153 through 174, choose the word or phrase that most nearly means the same as the underlined word.

153. the precise amount

- a. exact
- b. fair
- c. undetermined
- d. valuable

154. their vast piece of land

- a. expensive
- b. enormous
- c. worthless
- d. slight

155. to tote the package

- a. acquire
- b. carry
- c. drop
- d. abandon

156. a flagrant violation

- a. secret
- b. dangerous
- c. noble
- d. glaring

157. the governor's oration

- a. election
- b. independence
- c. speech
- d. candidacy

158. the eccentric old man

- a. frail
- b. stingy
- c. peculiar
- d. elective

159. to commence the meeting

- a. begin
- b. leave
- c. disclose
- d. terminate

160. a rational decision

- a. deliberate
- b. invalid
- c. prompt
- d. reasonable

161. expedite the process

- a. accelerate
- b. evaluate
- c. reverse
- d. justify

162. the obsolete machine

- a. complicated
- b. simple
- c. unnecessary
- d. outmoded

163. accountable for her behavior

- a. applauded
- b. compensated
- c. responsible
- d. criticized

164. his speech filled with hyperbole

- a. sincerity
- b. exaggeration
- c. understatement
- d. anger

165. its inferior quality

- a. absurd
- b. distinguished
- c. lower
- d. personal

166. the proponent of new laws

- a. advocate
- b. delinquent
- c. idealist
- d. critic

167. your disparaging remark

- a. encouraging
- b. final
- c. restricting
- d. belittling

168. to scrutinize the document

- a. vanish
- b. examine
- c. neglect
- d. weak

169. her irrelevant statement

- a. independent
- b. firm
- c. normal
- d. nonessential

170. our teacher's rigidity

- a. misery
- b. viewpoint
- c. inflexibility
- d. disagreement

171. to coerce the participants

- a. force
- b. permit
- c. promote
- d. deny

172. to collaborate on a project

- a. cooperate
- b. collect
- c. entice
- d. elaborate

173. the erroneous explanation

- a. accurate
- b. incorrect
- c. previous
- d. confusing

174. your magnanimous deed

- a. enormous
- b. scholarly
- c. generous
- d. dignified

PART 4: MATHEMATICS

Time: 45 minutes

175. 56.73647 rounded to the nearest hundredth is equal to

- a. 100
- b. 57
- c. 56.7
- d. 56.74

176. Which of the following decimals has the LEAST value?

- a. 0.0012
- b. 0.0102
- c. 0.012
- d. 0.12

177. Which of the following is the equivalent of $\frac{13}{25}$?

- a. 0.38
- b. 0.4
- c. 0.48
- d. 0.52

178. Which of the following has the greatest value?

- a. $\frac{7}{8}$
- b. $\frac{3}{4}$
- c. $\frac{2}{3}$
- d. $\frac{5}{6}$

179. Which of the following does NOT have parallel line segments?

- a. a rhombus
- b. a square
- c. a trapezoid
- d. a rectangle

180. 184 is evenly divisible by

- a. 46
- b. 43
- c. 41
- d. 40

181. Write ten million forty-three thousand seven hundred and three in numerals.

- a. 143,703
- b. 1,043,703
- c. 10,043,703
- d. 10,430,703

182. A polygon is a plane figure composed of connected lines. How many connected lines must there be to make a polygon?

- a. 3 or more
- b. 4 or more
- c. 5 or more
- d. 6 or more

183. $-12^2 =$

- a. 144
- b. -144
- c. -24
- d. 24

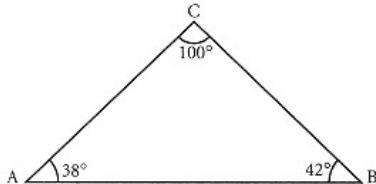
184. The greatest common factor of 8 and 24 is

- a. 2
- b. 4
- c. 6
- d. 8

185. Betty's horse, Spike, can run 3 times faster than Juan's horse, Muffin. The best simplification of this problem would be written

- a. $M \div 3 = S$
- b. $S = M - 3$
- c. $M = S + 3$
- d. $S = M - 3$

186. Which is the longest side? (Note: not drawn to scale.)



- a. AB
- b. AC
- c. BC
- d. AC and BC

187. If $n = 3$, which of the following statements is true?

- a. $9n > 6$
- b. $3n < 8$
- c. $2n > n^2$
- d. $3n < n^3$

188. What is the reciprocal of $3\frac{7}{8}$?

- a. $\frac{31}{8}$
- b. $\frac{8}{31}$
- c. $\frac{8}{21}$
- d. $\frac{31}{21}$

189. The ratio of one inch to one foot is

- a. 1:1
- b. 1:3
- c. 1:12
- d. 1:36

190. What is the best way to simplify the following sentence to make it easier to work with? Rachel had three apples and ate one.

- a. $R = 3 - 1$
- b. $3 - 2 = R$
- c. $R = 2$
- d. $3R - 2$

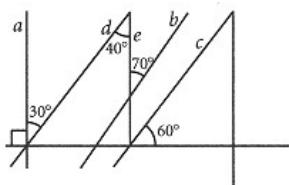
191. Which of the following is a prime (not a composite) number?

- a. 4
- b. 8
- c. 11
- d. 27

192. Which of the following numbers is evenly divisible by 3?

- a. 235
- b. 236
- c. 237
- d. 238

193. What lines are parallel in the following diagram?



- a. d and b
- b. a and e
- c. e and d
- d. d and c

194. Simplify the following: Richard has three times the number of tennis trophies Aaron has.

- a. $R = A + 3$
- b. $A = R - 3$
- c. $R = 3A$
- d. $A = 3R$

195. Which of the following has the same value as $5/8$?

- a. 5.8
- b. 0.16
- c. 0.625
- d. 0.375

196. Which is the shortest time?

- a. $1/3$ day
- b. 9 hours
- c. 540 minutes
- d. 32,400 seconds

197. What number belongs in the box?

$$+ 7 - 12 + \square = 1$$

- a. -6
- b. 6
- c. -10
- d. 18

198. Which is greatest?

- a. 0.23
- b. 0.09
- c. 0.18
- d. 0.3

199. The Neighborhood Association organized a play group for cats. 15 people joined, and each brought 3 cats. How many cats were brought to the play group?

- a. 60 cats
- b. 45 cats
- c. 30 cats
- d. 25 cats

200. Kevin is buying fabric for new curtains. There are three windows, each 35 inches wide. Kevin needs to buy fabric equal to $2\frac{1}{2}$ times the total width of the windows. How much fabric should he buy?

- a. 262 $\frac{1}{2}$ inches
- b. 175 $\frac{1}{3}$ inches
- c. 210 $\frac{3}{4}$ inches
- d. 326 $\frac{1}{4}$ inches

201. Last week, Felicity had \$67.98 saved from baby-sitting. She made another \$15.75 baby-sitting this week and spent \$27.58 on CDs. How much money does she have now?

- a. \$71.55
- b. \$24.65
- c. \$111.31
- d. \$56.15

202. If it takes Danielle 22.4 minutes to walk 1.25 miles, how many minutes will it take her to walk one mile?

- a. 17.92
- b. 18
- c. 19.9
- d. 21.15

203. 400 pounds of cod are shipped to Jerry's Fish Market packed into 20-pound crates. How many crates are needed for the shipment?

- a. 80 crates
- b. 40 crates
- c. 20 crates
- d. 10 crates

204. 3 hours 20 minutes - 1 hour 48 minutes =

- a. 5 hours 8 minutes
- b. 4 hours 8 minutes
- c. 2 hours 28 minutes
- d. 1 hour 32 minutes

205. $(2 + 4) \cdot 8 =$

- a. 84
- b. 64
- c. 48
- d. 32

206. $7/8 - 1/4 =$

- a. $4\frac{1}{2}$
- b. $7/32$
- c. $3\frac{1}{8}$
- d. $2/7$

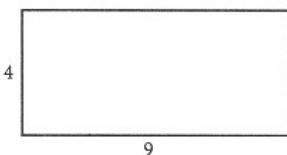
207. $3.6 - 1.89 =$

- a. 1.47
- b. 1.53
- c. 1.71
- d. 2.42

208. 60% of 390 =

- a. 234
- b. 190
- c. 180
- d. 134

209. What is the perimeter of the rectangle below?



- a. 13
- b. 22
- c. 26
- d. 36

210. Reva earns \$10 an hour for walking the neighbor's dog. Today she can only walk the dog for 45 minutes. How much will Reva make today?

- a. \$6.25
- b. \$7.50
- c. \$7.75
- d. \$8.00

211. Vonda is making a mosaic. Each tiny piece of glass in the artwork is $1\frac{1}{4}$ inches by $1\frac{3}{8}$ inch. What is the area of each piece?

- a. $1\frac{23}{32}$ square inches
- b. $1\frac{21}{22}$ square inches
- c. $1\frac{23}{25}$ square inches
- d. $1\frac{29}{31}$ square inches

212. Nathan saves $5\frac{1}{4}\%$ of his weekly salary. If Nathan earns \$380.00 per week, how much does he save each week?

- a. \$19.95
- b. \$20.52
- c. \$21.95
- d. \$25.20

213. Change $160/40$ to a whole number.

- a. 16
- b. 10
- c. 8
- d. 4

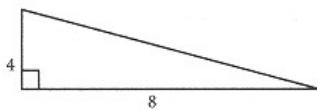
214. If $8n + 25 = 65$, then n is

- a. 5
- b. 10
- c. 40
- d. 90

215. $6^3 =$

- a. 36
- b. 1,296
- c. 18
- d. 216

216. What is the area of the triangle shown below?



- a. 6
- b. 12
- c. 16
- d. 32

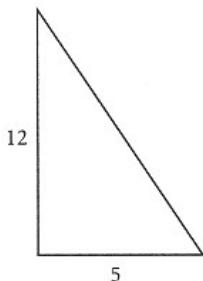
217. Which of the following is equivalent to $2y^2$?

- a. $2(y+y)$
- b. $2y(y)$
- c. $y^2 + 2$
- d. $y + y + y + y$

218. At the city park, 32% of the trees are oaks. If there are 400 trees in the park, how many trees are NOT oaks?

- a. 128
- b. 272
- c. 278
- d. 312

219. What is the perimeter of the right triangle shown?



- a. 17
- b. 20
- c. 30
- d. 40

220. Edward purchased a house for \$70,000. Five years later, he sold it for an 18% profit. What was his selling price?

- a. \$82,600
- b. \$83,600
- c. \$85,500
- d. \$88,000

221. The price of gasoline drops from \$1.00 per gallon to \$0.95 per gallon. What is the percent of decrease?

- a. 2%
- b. 3%
- c. 4%
- d. 5%

222. Meda arrived at work at 8:14 a.m. and Kirstin arrived at 9:12 a.m. How long had Meda been at work when Kirstin got there?

- a. 1 hour 8 minutes
- b. 1 hour 2 minutes
- c. 58 minutes
- d. 30 minutes

223. $4.5 \div 2.5 =$

- a. 20.0
- b. 2.0
- c. 1.8
- d. 0.2

224. Twelve less than 4 times a number is 20. What is the number?

- a. 2
- b. 4
- c. 6
- d. 8

225. Carmella and Mariah got summer jobs at the Dairy Queen and were supposed to work 15 hours per week each for 8 weeks. During that time, Mariah was ill for one week and Carmella took her shifts. How many hours did Carmella work during the 8 weeks?

- a. 120 hours
- b. 135 hours
- c. 150 hours
- d. 185 hours

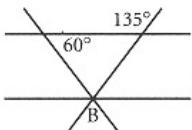
226. $x = l2 + y^2(l0-8)$

$$y = 2$$

$$x = ?$$

- a. 14
- b. 20
- c. 46
- d. 120

227. What is the measure of angle B in the diagram below?



- a. 45 degrees
- b. 60 degrees
- c. 75 degrees
- d. 130 degrees

228. If a population of yeast cells grows from 10 to 320 in a period of 5 hours, what is the rate of growth?

- a. It doubles its numbers every hour.
- b. It triples its numbers every hour.
- c. It doubles its numbers every two hours.
- d. It triples its numbers every two hours.

229. How many acres are contained in a parcel 121 feet wide and 240 yards deep? (1 acre = 43,560 square feet.)

- a. 1 acre
- b. 1 1/2 acres
- c. 2 acres
- d. 2 1/2 acres

230. The planet Pluto is estimated at a mean distance of 3,666 million miles from the sun. The planet Mars is estimated at a mean distance of 36 million miles from the sun. How much closer to the sun is Mars than Pluto?

- a. 36,300,000 million miles
- b. 36,300 million miles
- c. 3,630 million miles
- d. 363 million miles

231. Three coolers of water per game are needed for a baseball team of 25 players. If the roster is expanded to 40 players, how many coolers are needed?

- a. 4
- b. 5
- c. 6
- d. 7

232. D'Andre rides the first half of a bike race in two hours. If his partner Adam rides the return trip 5 miles per hour less, and it takes him three hours, how fast was D'Andre traveling?

- a. 10 mph
- b. 15 mph
- c. 20 mph
- d. 25 mph

233. What is the value of y when $x = 3$ and $y = 5 + 4x$?

- a. 6
- b. 9
- c. 12
- d. 17

234. If $ab - 16 = 14$, and $b = 5$, $a =$

- a. 2
- b. 3
- c. 6
- d. 30

235. $(8-4)^3 =$

- a. 12
- b. 16
- c. 36
- d. 64

236. The length of a rectangle is equal to 4 inches more than twice the width. Three times the length plus two times the width is equal to 28 inches. What is the area of the rectangle?

- a. 8 square inches
- b. 16 square inches
- c. 24 square inches
- d. 28 square inches

237. A certain number when added to 50% of itself is 27. What is the number?

- a. 7
- b. 9
- c. 11
- d. 18

238. What percentage of 18,000 is 234?

- a. 1,300%
- b. 130%
- c. 13%
- d. 1.3%

PART 5: LANGUAGE SKILLS

Time: 25 minutes

For questions 239 through 278, find the sentence that has a mistake in capitalization, punctuation, or usage. If you find no mistakes, mark choice d.

239. a. My favorite season is Spring.

- b. Last Monday, Aunt Ruth took me shopping.
- c. We elected Ben as treasurer of the freshman class.
- d. No mistakes.

240. a. My best friend is moving to another city.

- b. "What time does the movie begin?" he asked.
- c. The boys' wore identical sweaters.
- d. No mistakes.

241. a. Help is on the way.

- b. The firemen used a ladder to reach the kitten.
- c. Don't slip on the icy sidewalk.
- d. No mistakes.

242. a. Yes. it's true.

- b. The rain fell, and the river risen.
- c. My mother is a physician's assistant.
- d. No mistakes.

243. a. She asked me, to show her how to make an apple pie.

- b. He shouted from the window, but we couldn't hear him.
- c. Occasionally, someone will stop and ask for directions.
- d. No mistakes.

244. a. Of the four of us, I am the tallest.

- b. Wilson's brother is a chemical engineer.
- c. That fine circus elephant now belongs to my sister and I
- d. No mistakes.

245. a. His family has lived in this town for thirty-five years.

- b. You're the only one who can remember that song.
- c. That's the quickest way to get to Sylvia's house.
- d. No mistakes.

246. a. We searched every inch of the room.

- b. The words in this document does not make sense.
- c. We always have chicken for Sunday dinner.
- d. No mistakes.

247. a. Science and math are my two best subjects.

- b. We met senator Moynihan at a conference last June.
- c. Did you see the movie *Babe*?
- d. No mistakes.

248. a. Kamala was the most intelligent person in the group.

- b. The Eiffel Tower is in Paris, France.
- c. Nick Carraway is a character in *The Great Gatsby*.
- d. No mistakes.

249. a. Either Cassie nor I heard the door open.

- b. How many people signed the Declaration of Independence?
- c. Draw up a plan before you make your decision.
- d. No mistakes.

250. a. When you come to the end of Newton Road, turn left onto Wilson Boulevard.

- b. A small river runs alongside the highway.
- c. We learned that Cape Cod was formed 20,000 years ago.
- d. No mistakes.

251. a. "Meet me at six o'clock," she said.

- b. Tired of running, she slowed her pace to a fast walk.
- c. Gabriel and me will attend the geography bee.
- d. No mistakes.

252. a. He wore two different shoes to class.

- b. Rhonda's sister bought a new Pontiac.
- c. Lake Superior is the largest of the Great Lakes.
- d. No mistakes.

253. a. The lost dog wandered sad through the streets.

- b. Frustrated, Boris threw his pencil across the room.
- c. We'll stop at their house first.
- d. No mistakes.

254. a. It's going to be a long day.

- b. Derrick should of been here hours ago.
- c. Where are my golf clubs?
- d. No mistakes.

255. a. The tour guide asked us if we had any questions?

- b. Lauren's father is an auto mechanic.
- c. We asked if he could give us change for a dollar.
- d. No mistakes.

256. a. She and I have been friends for more than ten years.

- b. Is that one of the O'Farrell children?
- c. They took too much time to answer.
- d. No mistakes.

257. a. Did you read that article in *Newsweek*?

- b. My Uncle took us to Yankee Stadium.
- c. Christina has a Persian cat named Snowball.
- d. No mistakes.

258. a. Reena took little Sean to kindergarten.

- b. Gregory is learning to be a chef.
- c. Paul drunk four bottles of grape soda.
- d. No mistakes.

259. a. We urged her to run for public office.

- b. Mr. Simmons did not believe the story we told him.
- c. The train pulling away from the station.
- d. No mistakes.

260. a. "I'll come and stay with you, grandma," I said.

- b. "Don't ever tell a lie," he warned.
- c. "Why won't you play with us?" he asked.
- d. No mistakes.

261. a. There are rocky cliffs along the coast.

- b. Our class took a field trip to the art museum.
- c. We saw Dr. Mason because our doctor was on vacation.
- d. No mistakes.

262. a. I always have a hard time getting up in the morning.

- b. We took: a tent, a cooler, and a sleeping bag.
- c. The fog was as thick as potato soup.
- d. No mistakes.

263. a. This is someone else's coat.

- b. Which of these songs was recorded by Bruce Springsteen?
- c. That book must be yours.
- d. No mistakes.

264. a. They're planning to drive to Vermont today.

- b. When will you teach me to play the guitar?
- c. There's no reason to stay up so late.
- d. No mistakes.

265. a. Make sure your seatbelt is fastened.

- b. I'm afraid of spiders George is too.
- c. Yes, I will bring the dessert
- d. No mistakes.

266. a. Don't stand in my way.

- b. Cecilia and I fought our way through the crowd.
- c. The vegetables were old rubbery and tasteless.
- d. No mistakes.

267. a. After you left, I took the dog for a walk.

- b. For the first time, I understood what he was talking about.
- c. We visited the house where George Washington lived last fall.
- d. No mistakes.

268. a. Sandra Day O'Connor was the first woman to serve on the U.S. Supreme Court.

- b. The judge met with both attorneys in his chambers.
- c. Which of the Beatles' songs do you like best?
- d. No mistakes.

269. a. The steam rose up from the hot pavement.

- b. She put the kitten down carefully beside its mom.
- c. Neither of us is going to the party.
- d. No mistakes.

270. a. Here are four different varieties of the same species.

- b. The oldest one of these books are not for sale.
- c. This is the most exciting vacation I have ever had.
- d. No mistakes.

271. a. Remember to walk the dog.

- b. "Don't run"! Mr. Ellington shouted.
- c. It's supposed to snow today and tomorrow.
- d. No mistakes.

272. a. When I go to the mall, I took Harrison with me.

- b. There are two buildings on this property.
- c. I was invited, but I declined the invitation.
- d. No mistakes.

273. a. Charleen's parents worried whenever she drove the car.

- b. Who designed the Brooklyn Bridge?
- c. Diseases like Smallpox and Polio have been eradicated.
- d. No mistakes.

274. a. They traveled south and hiked in the desert.

- b. "Don't shout at me," she yelled back.
- c. Joshua enters lots of contests, until he knows he can't win.
- d. No mistakes.

275. a. The dancers' shoes were all lined up against the wall.

- b. Have you ever visited Smokey Mountain National Park?
- c. Turn off that television!
- d. No mistakes.

276. a. I'm taking a class in West Indian literature.

- b. The people in the park, including all the children on the swings.
- c. Andrea likes my cheesecake better than Aunt Lydia's.
- d. No mistakes.

277. a. Where's my blue jacket?

- b. The prizes were awarded to Juan and me.
- c. After midnight, you will turn into a pumpkin.
- d. No mistakes.

278. a. When I heard the alarm, I jump out of bed.

- b. Mr. Fox is the president of his own company.
- c. At night I listened to jazz on the radio.
- d. No mistakes.

For questions 279 through 288, find the sentence that has a mistake in spelling. If you find no mistakes, mark choice d.

279. a. Bert will probibly stay home tonight.

- b. The coach praised the team for last night's game.
- c. It was a relief to learn that Brett had arrived safely.
- d. No mistakes.

280. a. The movie was immensely popular.

- b. Joshua made a commitment to practice the piano each day.
- c. We did not know the correct pronunciation.
- d. No mistakes.

281. a. The speaker presented an idea that was foreign to us.

- b. Marcus spoke directly to the governor.
- c. The boys and girls in the chorus gave a stunning performance.
- d. No mistakes.

282. a. The winners received their prizes several days ago.

- b. The principle met with the members of the student council.
- c. How many passengers traveled by train?
- d. No mistakes.

283. a. The schedule was posted on the bulletin board.

- b. Patrick made a solemn promise to arrive on time.
- c. I have an indoor thermometer hanging in my kitchen.
- d. No mistakes.

284. a. When will you have time to knit another sweater?

- b. The light fixture has become a permanent part of the room.
- c. I have no knowledge of how the bicycle was damaged.
- d. No mistakes.

285. a. Bobby thought the team did not play aggressively.

- b. The mayor and the city manager were not in agreement.
- c. The basement of the building seemed more like a dungeon.
- d. No mistakes.

286. a. The scissors were not sharp enough.

- b. The intense heat scorched my houseplants.
- c. The Milky Way is only one of many galaxies.
- d. No mistakes.

287. a. We knew that Ellen was embarrassed.

- b. I am teaching my brother to read mathematical symbols.
- c. Neither Joe nor Gary has done the research for his report.
- d. No mistakes.

288. a. Which of the following countries is not a democracy?

- b. Occasionally, our dog Skippy will dig under the fence.
- c. This weather is terribly depressing.
- d. No mistakes.

For questions 289 through 298, follow the directions for each question.

289. Choose the word that best joins the thoughts together.

Ms. Ramirez was the toughest teacher we had ever had, _____ she was also the fairest.

- a. thus
- b. yet
- c. which
- d. instead

290. Choose the word that best joins the thoughts together.

Julia is an accomplished musician; _____ she just won an award for solo violin performance.

- a. however
- b. instead
- c. in fact
- d. finally

291. Which of these expresses the idea most clearly?

- a. Officer DeAngelo phoned his partner every day when he was in the hospital.
- b. When his partner was in the hospital, Officer DeAngelo phoned him every day.
- c. When in the hospital, a phone call was made every day by Officer DeAngelo to his partner.
- d. His partner received a phone call from Officer DeAngelo every day while he was in the hospital.

292. Which of these expresses the idea most clearly?

- a. Some of the case transcripts I have to type are very long, but that doesn't bother one if the cases are interesting.
- b. Some of the case transcripts I have to type are very long, but that doesn't bother you if the cases are interesting.
- c. Some of the case transcripts I have to type are very long, but it doesn't bother a person if the cases are interesting.
- d. Some of the case transcripts I have to type are very long, but that doesn't bother me if the cases are interesting.

293. Which of these expresses the idea most clearly?

- a. In search of the missing teenagers, who still had not been found through snake-ridden underbrush all day, the exhausted volunteers had struggled.
- b. All day the exhausted volunteers had struggled through snake-ridden underbrush in search of the missing teenagers, who still had not been found.
- c. All day the exhausted volunteers had struggled through snake-ridden underbrush who still had not been found in searching for the missing teenagers.
- d. The exhausted volunteers who still had not found in search of the missing teenagers when they had struggled through snake-ridden underbrush.

294. Choose the group of words that best completes this sentence.

As soon she realized that the hurricane was going to strike, _____

- a. the mayor told the residents to evacuate the city.
- b. the city residents were told to evacuate by the mayor.
- c. the mayor tells the city residents of her decision to evacuate.
- d. the residents of the city were told to evacuate by the mayor.

295. Which of the following topics is best for a one-page essay?

- a. Why I Have a Vegetable Garden in My Backyard
- b. How Pesticides Are Contributing to Various Diseases
- c. Why Agribusiness Is Not Good for the U.S. Economy
- d. Iowa, Nebraska, and Kansas: America's Bread Basket

296. Which of these best fits under the topic, "Help for the Nearsighted"?

- a. Eye surgeons perform delicate operations with the use of magnifying lenses.
- b. The pupil is the round aperture in the iris of the eye; it contracts and expands in relation to the amount of light.
- c. Tiny, transparent rings that are implanted into the cornea might correct mild to moderate nearsightedness.
- c. Most children in the United States have their eyes tested by the time they are in the third or fourth grade.

297. Which sentence does NOT belong in the paragraph?

1) The 1990s will go down as the hottest decade on record. 2) The average temperature was 1.2 degrees higher than normal. 3) Scientists are trying to figure out the cause. 4) When temperatures are high, people use more air conditioning.

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence 4

298. Where should the sentence, "Between the sketch and the photo, artists have just about all they will need to begin the painting" be placed in the paragraph below?

1) Today, painters often use their photographs to document the scenes they later will paint. 2) Photographs function most effectively when they are used along with the artist's sketch of the same scene. 3) A sketch records the composition exactly as the artist viewed it and responded to it. 4) The camera records the details and fills in whatever the sketch may have missed.

- a. Before Sentence 1
- b. Between Sentences 1 and 2
- c. Between Sentences 3 and 4
- d. After Sentence 4

ANSWERS**PART 1: VERBAL SKILLS**

- 1. c.** *A leopard*, a *cougar*, and a *lion* all belong to the cat family; the *elephant* does not.
- 2. a.** *Falter*, *hesitate*, and *waver* are all synonyms; *baffle* has an entirely different meaning.
- 3. b.** Because the first two statements are true, Wendell is the shortest of the three, so the third statement is false.
- 4. c.** *Saturate* means to fill to capacity, to *soak*, or to penetrate.
- 5. a.** *Inventive* and *creative* both mean imaginative. The other choices are incorrect because inventive people are not necessarily *mechanical*, *industrious* or *productive*.
- 6. b.** *Coffee* goes into a *cup* and *soup* goes into a *bowl*. Choices **a** and **c** are incorrect because they are unrelated utensils. The answer is not choice **d** because the word *food* is too general.
- 7. d.** A *marathon* is a long race and *hibernation* is a lengthy period of *sleep*. The answer is not **a** or **b** because even though *bear* and *winter* have a relationship with the word *hibernation*, neither of these completes the analogy. Choice **c** is incorrect because a *nap* is a short period of *sleep*.
- 8. b.** The *flute*, *saxophone*, and *trumpet* are wind instruments; the *violin* is a stringed instrument.
- 9. d.** To be *punctual* means to be on time; to be *tardy* means to be late.
- 10. d.** The *telephone* is a means of *communication*. The *bus* is a means of *transportation*. *Aviation*, choice **a**, is not the answer because it is a type of transportation, not a means. The answer is not choice **b** or **c** because neither of these represents a means of transportation.
- 11. a.** *Tactful* and *diplomatic* are synonyms (they mean about the same thing). *Bashful* and *timid* are also synonyms. The answer is not **b** or **c** because neither of these means the same as *bashful*. *Bold*, choice **d**, is incorrect because it means the opposite of *bashful*.
- 12. c.** A *synopsis* is an abbreviated version (usually of a book or play); a *summary* is a brief statement of facts or points.
- 13. b.** A vast prairie is great in size, or *immense*.
- 14. c.** Because the first two statements are true, both Zoe and Heather read more books than Jenna, but it is uncertain as to whether Zoe read more than Heather.
- 15. c.** *Scarcely* is the opposite of *mostly*, and *quietly* is the opposite of *loudly*. Choices **a** and **b** are dearly not opposites of *quietly*. Choice **d** means the same as *quietly*.
- 16. a.** *Grant* means the act of giving something, so its opposite would be to *deny* something.
- 17. b.** The *mayor*, *governor*, and *senator* are all persons elected to government offices; the *lawyer* is not an elected official.
- 18. d.** *Rayon*, *silk*, and *cotton* are all types of fabric. *Cloth* is not a fabric type.
- 19. a.** If no shingles are purple and all of the houses have roofs with shingles, none of the houses has a purple roof.
- 20. b.** A *baker* makes *bread*; a *congressman* makes *laws*. The answer is not choice **a** because a *senator* and a *congressman* both make laws. Choice **c** is incorrect because a *congressman* does not make a *state*. *Politician*, choice **d**, is also incorrect because a *congressman* is a *politician*.

21. d. An *intrepid* person approaches a challenge without fear; a *fearless* person behaves the same way.
22. b. A *statute* is a law; an *ordinance* is a rule or law.
23. b. Because the first two statements are true. Penfield is west of Centerville and southwest of Middletown. Therefore, the third statement is false.
24. c. The first two statements indicate that Battery Y lasts the least amount of time, but it cannot be determined if Battery Z lasts longer than Battery X.
25. d. The first three choices are all synonyms. Choice **d** has a different meaning altogether.
26. a. The *index*, the *glossary*, and the *chapter* are all parts of a *book*. Choice a is incorrect because the *book* is the whole, not a part.
27. c. *Virtue* means a moral goodness; *vice* means a moral failing.
28. b. To *liberate* means to release; to *restrain* means to deprive of liberty.
29. c. The *noun*, the *preposition*, and the *adverb* are classes of words that make up a sentence. *Punctuation* belongs in a sentence, but punctuation is not a word.
30. a. **Sage** and **wise** both mean intelligent, perceptive.
31. a. *Obscure* and *hidden* both mean concealed.
32. b. An *actor* performs in a *play*. A *musician* performs at a *concert*. Choices **a**, **c**, and **d** are incorrect because none are people who perform.
33. c. We know only that long-tailed Gangles have spots. We cannot know for certain if long-tailed Gangles also have short hair.
34. c. *Requirement* means something obligatory; *option* means something chosen.
35. c. To *pacify* means to calm; to *excite* means to stir up.
36. d. The *cornea*, *retina*, and *pupil* are all anatomical parts of the eye; *vision* is a function of the eye.
37. c. We know from the first two statements that Tuesday had the highest temperature, but we cannot know whether Monday's temperature was higher than Tuesday's.
38. a. To *validate* means to *confirm* the authenticity of something.
39. b. To have an *antagonist* is to have an *opponent*, or one who opposes you.
40. d. *Rye*, *sourdough*, and *pumpernickel* are types of bread. A *loaf* is not a bread type.
41. d. A group of lions is called a *pride*. A group of *fish* swim in a *school*. *Teacher*, choice **a**, and *student*, choice **b**, refer to another meaning of the word *school*. The answer is not **c** because *self-respect* has no obvious relationship to this particular meaning of *school*.
42. a. *Control* and *dominate* are synonyms, and *magnify* and *enlarge* are synonyms. The answer is not choice **b** or **d** because neither of these means the same as *enlarge*. Choice **c** is incorrect because *decrease* is the opposite of *enlarge*.
43. b. To *enumerate* means to ascertain the number of; to *count*.
44. c. *Impartial* means unbiased, unprejudiced, or *fair-minded*.
45. a. Since the Hide-Away costs more than the Cozy Inn, and the Hotel Victoria costs more than the Hide-Away, it is true that the Hotel Victoria costs the most.
46. b. An ounce measures weight; the other choices measure length.
47. c. *Imaginary* means unreal; *realistic* means real.
48. a. *Faltering* means stumbling; *steady* means unfaltering.
49. a. *Freeway*, *interstate*, and *expressway* are all high-speed highways; a *street* is for low-speed traffic.
50. c. A *bicycle* is put in motion by means of a *pedal*. A *canoe* is put into motion by means of an *oar*. The

answer is not choice **a** because the substance *water* does not necessarily put the canoe into motion. *Kayak*, choice **b**, is incorrect because it is a type of boat similar to a canoe. Choice **d** is incorrect because a *fleet* is a group of boats.

51. a. To *humidify* and to *moisten* both mean to make damp.

52. a. *Eternal* and *timeless* both mean without end.

53. d. *Sleeve*, *pocket*, and *collar* are all parts of a *shirt*.

54. b. *Dodge*, *duck*, and *avoid* are all synonyms meaning evade. *Flee* means to run away from.

55. a. From the first two statements, you know that Troup 101 sold the most cookies, so Troup 101 would have sold more than Troup 103.

56. b. We know from the first two statements that James jumps highest. Therefore, the third statement must be false.

57. d. To be *plausible* is to be likely or *believable*.

58. d. *Heading*, *body*, and *closing* are all parts of a *letter*.

59. d. The *core*, the *seeds*, and the *pulp* are all parts of an apple. A *slice* would be a piece taken out of an apple.

60. d. To *levitate* means to rise and float; to *sink* means to go under the surface.

PART 2: QUANTITATIVE SKILLS

61. a. This is an alternating series. In the first pattern, 8 is added (1, 9, 17); in the second pattern, 1 is added (4, 5, 6).

62. c. Determine how each figure is shaded by counting the number of blocks.

63. b. $20\% \text{ of } 100 = 20; 20 + 3 = 23$.

64. b. First solve for (A), (B), and (C): $3 + (2 - 1) = 5$; $8(2 - 2) = 4$; $10 + (1 + 1) = 5$. Then find out which choice is true.

65. d. This is a simple subtraction series; each number is 25 less than the previous number.

66. d. This is a simple alternating addition and subtraction series. First, 3 is added, then 1 is subtracted; then 3 is added, 1 subtracted, and so on.

67. a. Count the number of individual lines in (A), (B), and (C) and then test each choice to find out if it is true. (A) = 4, (B) = 7, (C) = 3.

68. b. $3/4 \text{ of } 20 = 15; 15 - 7 = 8$.

69. b. First solve for (A), (B), and (C): $1/3 \text{ of } 12 = 4$; $4\% \text{ of } 100 = 4$; $1/5 \text{ of } 10 = 2$. Then find out which choice is true.

70. b. $3\% \text{ of } 200 = 6; 6 - 2 = 4$.

71. d. First, set up the equation: $n/6 = 1/2(18)$. Then solve: $n/6 = 9; n = 54$.

72. b. This is a simple subtraction series. Each number decreases by $1/8$.

73. b. AC is the hypotenuse of this right triangle, so AC must be greater than AB.

74. b. $30\% \text{ of } 90 = 27; 27 + 12 = 39$.

75. a. First solve for (A), (B), and (C): (A) = $1/8$, (B) = $1/16$, (C) = $1/32$. Then find out which choice is true.

76. c. This is an alternating repetition series, with a random number, 22, interpolated as every third number into an otherwise simple addition series. In the addition series, 4 is added to each number to arrive at the next number.

77. d. First set up the equation: $n - 2 = 1/3 - 30$. Then solve: $n - 2 = 10; n = 5$.

78. a. This is a simple subtraction series; each number is 4 less than the previous number.

79. d. First, determine the value of each letter: A = 5, B = 12, C = 30, D = 15, E = 22. Then test each choice to find out if it is true.

80. b. First solve for (A), (B), and (C): (A) = $3a$, (B) = $4a$, (C) = $3a$. Then find out which choice is true.

81. c. $7 - 3 = 21; 21 \div 1/3 = 63$.

- 82. b.** This is a simple division series; each number is one-half of the previous number.
- 83. a.** This is a simple addition series with a random number, 21, interpolated as every third number. In the series, 6 is added to each number except 21. to arrive at the next number.
- 84. d.** First, set up the equation: $50 - n = 13 + 1/4 \cdot 8$. Then solve: $50 - n = 13 + 2$; $50 - n = 15$; $n = 50 - 15$; $n = 35$.
- 85. d.** First determine the amounts shown in (A), (B), and (C), and then test each statement to find out if it is true.
- 86. c.** In this series, each number is repeated, then 13 is subtracted to arrive at the next number.
- 87. d.** First solve for (A), (B). and (C): (A) = 12, (B) = 13.5 (C) = 14. Then find out which choice is true.
- 88. a.** $140\% \text{ of } 5 = 7$; $7 - 17 = -10$.
- 89. c.** In this simple addition series, each number increases by 0.8.
- 90. c.** In this simple alternating addition and subtraction series, 2 is subtracted, then 1 is added, and soon.
- 91. c.** First solve for (A), (B), and (C): (A) = 8, (B) = 9, (C) = 7. Then find out which choice is true.
- 92. b.** The formula is: Area = Length x Width. Using this formula, determine the area of each rectangle: (A) is 4 square inches, (B) is 3 square inches, and (C) is 4 square inches. Then test each choice to find out which answer is true.
- 93. d.** First set up the equation: $n + (16 + n) = 136$. Then solve: $16 + 2n = 136$; $2n = 120$; $n = 60$.
- 94. a.** This is a simple alternating addition and subtraction series. The first series begins with 10 and adds 2; the second begins with 34 and subtracts 3.
- 95. b.** First, set up the equation: $n[(0.2 \cdot 60) - 8] = 24$. Then solve: $n(12 - 8) = 24$; $4n = 24$; $n = 6$.
- 96. a.** Determine how each figure is shaded by counting the number of blocks.
- 97. b.** First, set up the equation: $n = 2n - 5$. Then solve: $n = 5$.
- 98. c.** First, set up the equation: $n/3 = 3/5(50)$. Then solve: $n/3 = 30$; $n = 90$.
- 99. c.** First solve for (A), (B), and (C): (A) = 36, (B) = 33, (C) = 30. Then find out which choice is true.
- 100. d.** This alternating addition series begins with 3.1 is added to give 4; then 3 is added to give 7; then 1 is added, and so on.
- 101. a.** First set up the equation: $7n = 1/2(28)$. Then solve: $7n = 14$; $n = 2$.
- 102. b.** Use this formula to determine the area of a triangle: area = $1/2$ of base \times height. The area of (A) is $2 \frac{1}{2}$ inches, (B) is $2 \frac{1}{2}$ inches, and (C) is 3 inches. Test each choice to find out which answer is true.
- 103. c.** In this series, the letters progress by 2, and the numbers decrease by 3.
- 104. a.** This is a simple alternating subtraction series, which subtracts 2, then 5.
- 105. b.** Note the length of each line and test each statement.
- 106. c.** First, set up the equation: $4n = 72 - 20$. Then solve: $4n = 52$; $n = 13$.
- 107. b.** This is an alternating addition and subtraction series. Roman numbers alternate with Arabic numbers. In the Roman numeral pattern, each number decreases by 1. In the Arabic numeral pattern, each number increases by 1.
- 108. a.** First, set up the equation: $3n + 50 = 74$. Then solve: $3n = 24$; $n = 8$.
- 109. b.** This is an alternation multiplication and subtracting series: First, multiply by 2, and then subtract 8.
- 110. c.** This is a multiplication series with repetition. The decimal is repeated by a fraction with the same value and is then multiplied by 2.

111. d. First, set up the equation: $n = 16(1/6 - 4)$. Then solve: $n = 16 - 2; n = 32$.

112. a. First change (A) and (C) to decimals: (A) = 1.8 and (C) = 1.3. Then find out which choice is true.

PART 3: READING

113. c. The tone of the passage is enthusiastic in its recommendation of the greyhound as a pet and thereby encourages people to adopt one. It does not give advice on transforming a greyhound (choice **a**). The passage does not address the dog-racing audience (choice **b**). The author's tone is not objective (choice **d**), but rather enthusiastic.

114. d. See the last paragraph. The passage does not mention **b** or **c**. Choice **a** is clearly wrong; the passage states the opposite.

115. a. This is implied by the first paragraph. Choices **b**, **c**, and **d** are not touched on in the passage.

116. a. In the context of the passage, the word *impressions* means a person's ideas or beliefs about something.

117. d. In the context of the passage, the phrase *sweet, mild dispositions* refers back to the greyhound's temperament, which is mild or easygoing.

118. c. The first two sentences in the second paragraph support this answer. Choice **a** is incorrect because the passage states that greyhounds are easily housebroken, not that they are already housebroken. Choice **b** is contradicted in the passage. There is no support for **d**.

119. a. In the last paragraph, greyhounds are described as *affectionate and loyal*, which is the same as *loving and devoted*. The other choices are incorrect, according to the information given.

120. d. This detail is stated directly in the second paragraph.

121. d. See the last paragraph. Choices **a**, **b** and **c** are contradicted in the passage.

122. b. See the end of the next-to-last sentence in the passage. Choices **a**, **c**, and **d** are not to be found in the passage.

123. a. The first paragraph clearly provides this definition of an ecosystem. There is no support for the idea that an ecosystem provides economic protection, which rules out **d**.

124. c. The passage states that unless land development is carefully planned, local ecosystems can be destroyed. There is no support for either **a** or **b**. Choice **d** can be ruled out because ecosystems can be saved by ecosystem management.

125. a. The last sentence clearly states the author's point of view. The author does imply it is important to protect economic well-being, but the main concern of the passage is the protection of ecosystems. There is no support for the other choices.

126. b. The passage defines organisms as living things (sentences 1 and 2). This is the only choice that is not a living thing.

127. d. In the context of the passage, *components* means parts or elements.

128. a. The last sentence of the passage provides the answer. There is no support for the idea that planning includes controlling the number of animals (choice **b**). Choices **c** and **d** have nothing to do with management.

129. c. The answer is found in the first sentence of the second paragraph. A habitat (choice **a**) is where an ecosystem occurs. There is no support for either **b** or **d**.

130. a. The third sentence in the second paragraph supports this choice. Choice **b** can be ruled out

because the author states that ecosystems can be saved through management. There is no support for either **c** or **d**.

131. b. The entire first paragraph defines what an ecosystem is. Choice **a** can be ruled out because there is nothing to indicate that ecosystems are delicate. Choice **c** can be ruled out because the first paragraph does not indicate any particular point of view or opinion. There is no support for **d**.

132. d. The second sentence in the second paragraph clearly indicates that land development means new housing and businesses, which would also mean new buildings.

133. a. Of the four choices this is the best because the topic of the passage is the danger that backdrafts pose to firefighters. Choices **b** and **c** can be ruled out because these topics are not covered in the passage; **d** is not a good choice because backdrafts are always hazardous.

134. b. A synonym for *encounter*, as it is used in this passage, is *face*, which means come upon or meet up with.

135. d. The first two sentences of the passage indicate that a backdraft is dangerous because it is an explosion. The other choices are dangers, but they do not define a backdraft.

136. d. In the context of the passage, *sustain* means to keep the fire going; to continue.

137. b. The second paragraph indicates that there is little or no visible flame with a potential backdraft. The other choices are listed at the end of the second paragraph as warning signs of a potential backdraft.

138. c. This is stated in the last paragraph. Choice **a** is not mentioned in the passage. The other choices would be useless or harmful.

139. a. The passage indicates that hot, smoldering fires have little or no visible flame and insufficient oxygen. It can reasonably be inferred, then, that more oxygen would produce more visible flames.

140. c. The tone of the passage is clearly a warning about the dangers of encountering a backdraft. Choices **a** and **b** can be ruled out because the passage in no way tries to recruit or discourage; **d** is not a good choice because the passage does not discuss house fires.

141. c. The second paragraph clearly states that dense, black smoke indicates a backdraft danger and that the firefighter should open the building at the top. Choices **a** and **b** would cause a backdraft. There is no support for **d**.

142. b. The third paragraph is mainly about how one would prevent a backdraft from occurring.

143. d. The passage says that people in general consider genius *supernatural*, *but also . . . eccentric*, the pairing of *extraordinary* and *erratic* in choice **d** includes both meanings given in the passage. Choices **a** and **c** cover only one side of the passage's meaning. Choice **b** contains definitions that the passage does not ascribe to the common view of genius.

144. c. This title covers the main point of the passage that, while there are predictable patterns in the life of a genius, the pattern increases the sense of something supernatural touching his or her life. Choices **a** and **b** are too general. Choice **d** is inaccurate because the passage does not talk about disorder in the life of a genius.

145. b. The passage indicates that geniuses have "a good abnormality"; this helps to define the use of the word *eccentric* as meaning abnormal or unusual.

146. a. You can arrive at this as the best choice by ruling out the other choices. Choice **b** is wrong because the piece is not like an advertisement in

either content or tone. Choice c can be ruled out because, although the passage states that people regard geniuses as *abnormal*, it does not say they are mentally ill. Choice d is not a good choice because this passage is nonfiction.

147. b. The passage states that the "patterns occur with regularity," so the patterns are *predictable* or *foreseeable*.

148. c. The answer is found in the second to last sentence. Choices **a** and **d** are clearly false. The statement in **b** is wrong because Findley's study found some *predictable* patterns in the lives of geniuses.

149. a. In the context of this passage, this is the only choice that makes sense.

150. d. This answer is arrived at through the context of the passage. Findley's study uncovered some new information about geniuses. Choice **a** may be true, but it is not stated in the passage. There is no support for **b** or **c**.

151. b. The main purpose of this passage is clearly to provide information.

152. d. Notice that this question asks for something that is NOT in the passage. Choice **d** is correct because the passage states that there are three very productive times in a genius's life, but it does not say why. Choice **a** appears in the first paragraph; choices **b** and **c** appear in the second paragraph.

153. a. *Precise* means exactly or sharply defined.

154. b. *Vast* means great in size, amount, or intensity.

155. b. *Tote* means to carry by hand.

156. d. *Flagrant* means obviously inconsistent with what is right or proper; glaring.

157. c. An *oration* is a formal speech.

158. c. *Eccentric* means deviating from accepted conduct; peculiar.

159. a. *Commence* means begin.

160. d. *Rational* means based on reason.

161. a. *Expedite* means accelerate the process; to speed up.

162. d. *Obsolete* and *outmoded* both mean no longer in use.

163. c. To be held *accountable* means to be held responsible for something.

164. b. A *hyperbole* is an extravagant statement, an exaggeration or overstatement.

165. c. *Inferior* is lower in rank, quality, or importance.

166. a. A *proponent* is an advocate or supporter; someone who argues in favor of something.

167. d. To *disparage* is to talk about something or someone in a negative manner; to belittle.

168. b. To *scrutinized* to examine carefully.

169. d. *Irrelevant* means not having significant bearing on the matter at hand; not essential.

170. c. *Rigidity* means an uncompromising inflexibility.

171. a. *Coerce* means to bring about by force or threat.

172. a. *Collaborate* means to work jointly; to cooperate.

173. b. *Erroneous* means characterized by error; incorrect.

174. c. To be *magnanimous* means to be noble of mind or generous.

PART 4: MATHEMATICS

175. d. The hundredth is the second digit to the right of the decimal point. Because the third decimal is 6, the second is rounded up to 4.

176. a. Because there are zeros in both the tenths and hundredths places the other choices are all greater than choice **a**.

- 177. d.** Divide the numerator of the fraction, or top number, by the denominator of the fraction, or bottom number: So $13/25$ becomes $13 \div 25$, or 0.52, or $20/24$.
- 178. a.** To solve this problem, you must first convert all the fractions to the lowest common denominator, which is $24.7/8 = 21/24$; $3/4 = 18/24$; $2/3 = 16/24$; $5/6 = 20/24$.
- 179. c.** A trapezoid is the only one that does not have parallel lines by definition.
- 180. a.** 46 goes into 184 four times. The other choices cannot be divided evenly into 184.
- 181. c.** 10,043,703 is the correct answer. The millions place is the third group of numbers from the right. (If any group of digits *except the first* has less than 3 digits, you must add a zero at the beginning of that group.)
- 182. a.** A polygon is a plane figure composed of 3 or more lines.
- 183. a.** Minus 122 is -12 times itself. $-12 \times (-12) = 144$. Because the signs of the numbers are the same, the answer is positive.
- 184. d.** The greatest common factor is 8 itself; 2 and 4 are common factors, but they are smaller.
- 185. d.** Choice d is in the correct order. Choice a omits information (Spike), and choices b and c present inaccurate information.
- 186. a.** The side opposite the largest angle is the longest side. In this case, it is side AB.
- 187. d.** This is the only true statement: $3n$ is less than n^3 , because $n^3 = 27$, and $3n = 9$.
- 188. b.** Convert the mixed number $37/8$ to the improper fraction $31/8$ and then invert.
- 189. c.** There are 12 inches in a foot so the ratio is 1 to 12.
- 190. a.** This answer is in the correct order and is "translated" correctly: Rachel had (=) 3 apples and ate (-) 1.
- 191. c.** A prime number is one that can be divided evenly by itself and 1, but not by any other number. The other choices are divisible by other numbers, besides 1 and themselves.
- 192. c.** 79 goes into 237 three times.
- 193. d.** The angle between a and d, and the angle adjacent to it are complementary, so the adjacent angle is 60 degrees. The angle between c and the bottom line is also 60 degrees, so d and c must be parallel.
- 194. c.** Take the words in order and substitute the letters and numbers: Richard has (=) 3 times () the number of tennis trophies Aaron has "translates" to R = 3A.
- 195. c.** $5/8 = 5$ divided by 8. or 0.625.
- 196. a.** $1/3$ day = 8 hours; the other choices equal 9 hours.
- 197. b.** $+7 - 12 = -5$; $-5 + 6 = 1$
- 198. d.** The 3 in the tenths position makes this number the greatest.
- 199. b.** This is a problem in multiplication: 15 (number of people who brought cats) \times 3 (number of cats) = 45 (cats).
- 200. a.** The total width of the three windows is 105 inches. $105 - 2\frac{1}{2} = 105/1 - 5/2 = 525/2 = 262\frac{1}{2}$.
- 201. d.** Add \$15.75 to \$67.98 and then subtract \$27.58. The answer is \$56.15.
- 202. a.** This is a division problem. Because there are two decimal points in 1.25, move the decimal point two places in both numbers. $2240 \div 125 = 17.92$
- 203. c.** Divide the amount of cod by the number of crates: $400 \div 20 = 20$.
- 204. d.** You must "borrow" 60 minutes from the 3 hours in order to be able to subtract.
- 205. c.** Perform the operation in parentheses first: $2+4=6$. (Even though this part is addition, you do it first because it is in parentheses.) Now mul-

tiply: $6(8) = 48$. If you picked choice b, you probably multiplied the numbers in parentheses, rather than adding them.

206. b. The correct answer is 7/32.

207. c. This is a simple subtraction problem, as long as the decimals are lined up correctly.

208. a. Change the percent to a decimal to get 0.60, then multiply: $390(0.60) = 234$.

209. c. The perimeter is equal to $(2 - 4) + (2 - 9) = 26$.

210. b. 45 minutes is equal to $3/4$ of an hour, so Reva will only make $3/4$ of her usual fee. Change $3/4$ to a decimal: 0.75. Now multiply: $10 \times 0.75 = 7.5$. Reva will make \$7.50 today.

211. a. To multiply mixed numbers, convert to improper fractions, or $5\frac{1}{4} \times 11\frac{1}{8} = 55\frac{3}{32}$, or $1\frac{23}{32}$ square inches.

212. a. To solve this problem, change the percent to a decimal and multiply: $0.0525 \times 380 = 19.95$

213. d. Divide the top number by the bottom number: $160 \div 40 = 4$.

214. a. The problem is solved by first determining that $8n = 40$, then dividing 40 by 8 to get the answer, which is 5.

215. d. The exponent here is 3, which is the power to which the number is raised—that is, $6^3 = 6$ times itself 3 times, or: $6 \times 6 \times 6 = 216$.

216. c. The area is $1/2$ base \times height. This gives $1/2 \times 4 \times 8 = 16$.

217. b. To square y , multiply $y \times y$.

218. b. This is a two-step problem. First, determine what percent of the trees are NOT oaks by subtracting: $100\% - 32\% = 68\%$. Change 68% to a decimal and multiply: $0.68 \times 400 = 272$.

219. c. In order to find the perimeter, the hypotenuse of the triangle must be found. This comes from recognizing that the triangle is a 5–12–13 triangle, or by using the Pythagorean theorem. Therefore, $5 + 12 + 13 = 30$.

220. a. This is a two-step problem. First, find the amount of profit. Convert the percent to a decimal and multiply $70,000 \times 0.18 = 12,600$. Next, add the result to the original price: $70,000 + 12,600 = 82,600$.

221. d. To find the percent of decrease, first calculate the amount of the decrease: $1.00 - 0.95 = 0.05$. Set up the formula to solve for percent. Since $x\% = x/100$, the equation is $x/100 = 0.05/1.00$. Cross-multiply: $(1.00)(x) = (0.05)(100)$. Simplify: $x = 5$. There is a 5% decrease.

222. c. Between 8:14 and 9:00, 46 minutes elapse, and between 9:00 and 9:12, 12 minutes elapse, so this is a simple addition problem: $46 + 12 = 58$.

223. c. The correct answer is 1.8.

224. d. Solve this problem with the following equation: $4x - 12 = 20$; therefore, $4x = 32$, so $x = 8$.

225. b. Carmella worked 15 hours per week for 8 weeks: $15(8) = 120$. In addition, she worked 15 hours for Mariah for one week, so: $120 + 15 = 135$.

226. b. $x=12+(4-2); x=12+8; x=20$.

227. c. 135 and its adjacent angle within the triangle are supplementary, so $180 - 135 = 45$ degrees. Angle B and the remaining unknown angle inside the triangle are vertical, so the angle within the triangle's measure is needed: $180 - 60 - 45 = 75$ degrees, so angle B is also 75 degrees.

228. a. It is easiest to use trial and error to arrive at the solution to this problem. Begin with choice a: After the first hour, the number would be 20, after the second hour 40, after the third hour 80, after the fourth hour 160, and after the fifth hour 320. Fortunately, in this case, you need go no fur-

ther. The other answer choices do not have the same outcome.

229. c. This is a three-step problem involving multiplication and division. First, change yards to feet: 240 yards \times 3 feet in a yard = 720 feet. Now find the number of square feet in the parcel: 121 feet \times 740 feet = 87,120 square feet. Now find the number of acres: 87,120 square feet \div 43,560 square feet in an acre = 2 acres.

230. c. This is a subtraction problem. First, simplify the problem by dropping the word "million." The problem then becomes P = 3,666, M = 36. So P - M = 3,666 - 36 = 3,630. Now add the word "million" back and the answer becomes 3,630 million.

231. b. To solve this problem set up the proportion 3 is to 25 as x is to 40: $3/25 = x/40$. Cross-multiplying: $(3)(40) = 25(x)$. Solving for x gives 4.8, but since coolers must be whole numbers, this number is rounded up to 5.

232. b. Let D'Andre's rate = x. D'Andre's rate multiplied by his travel time equals the distance he travels; this equals Adam's rate multiplied by his travel time; $2x = D = 3(x-5)$. Therefore, $2x = 3x-15$ or $x = 15$ mph.

233. d. Substitute 3 for x in the expression 5 plus $4x$ to determine that y equals 17.

234. c. $5a-16 = 14$; $5a = 30$; $a = 6$

235. d. $(8-4)^3=4^3$; $4^3=4 \times 4 \times 4$

236. b. This must be solved with an algebraic equation. L = 2W + 4; 3L + 2W = 28. Therefore, $6W + 12 + 2W = 28$; $8W = 16$; W = 2. L = 8. $2 \times 8 = 16$ square inches.

237. d. Let x = the unknown number. We have $x + 0.50x = 27$ or $1.50x = 27$. Therefore x = 18.

238. d. A percentage is a portion of 100 where $x\% = x/100$. So the equation is $x/100 = 234/18,000$. Cross multiply: $18,000x = 234 \times 100$. Simplify: $x = 23,400/18,000$. Thus x = 1.3.

PART 5: LANGUAGE SKILLS

239. a. *Spring* should not be capitalized.

240. c. There should not be an apostrophe after the word *boys*.

241. d. All the answer choices are correct.

242. b. The correct verb form is *rose*.

243. a. The comma is unnecessary and should be deleted.

244. c. The word *I* should be replaced with the word *me*, because the pronoun is the object, not the subject.

245. d. All the answer choices are correct.

246. b. There is no subject-verb agreement. The verb should be plural (*do not make*), because the subject is *words*, which is a plural noun.

247. b. *Senator* should be capitalized because it refers to a particular senator.

248. d. All the answer choices are correct.

249. a. *Nor* is incorrect. Use *either* with or and *neither* with *nor*.

250. c. *Cape Cod* is a proper noun, and both words should be capitalized.

251. c. The correct pronoun is *I*, not *me*.

252. d. All the answer choices are correct.

253. a. The adjective *sad* should be replaced with the adverb *sadly*, which modifies the verb *wandered*.

254. b. The verb is used incorrectly. The correct usage is "should have been."

255. a. Since this is a declarative sentence, the question mark should be replaced with a period.

256. d. All the answer choices are correct.

257. b. *Uncle* is not used as a proper noun and should not be capitalized.

258. c. The verb in this sentence has been incorrectly formed; it should be *drank*, not *drunk*.

259. c. This is a sentence fragment.

260. a. *Grandma* is used as a proper name and should be capitalized.

- 261.** d. All the answer choices are correct.
- 262.** b. A colon should not be used between a verb and its objects.
- 263.** a. There should be an apostrophe in the word *else's*, which is possessive.
- 264.** d. All the answer choices are correct.
- 265.** b. This is a run-on sentence.
- 266.** c. The commas are missing from this series of adjectives.
- 267.** c. This sentence has a misplaced modifier, which makes the statement illogical. The sentence should read: *Last fall we visited the house where George Washington lived.*
- 268.** d. All the answer choices are correct.
- 269.** d. All the answer choices are correct.
- 270.** b. There is no subject-verb agreement. *Oldest* is the subject of this sentence and is used as a singular noun; therefore, it requires the singular verb *is*.
- 271.** b. The quotation mark should appear on the outside of the exclamation point: "*Don't run!*"
- 272.** a. This sentence makes an illogical shift in tense—from present to past tense.
- 273.** c. *Polio* and *smallpox* should not be capitalized. Diseases are not capitalized unless a proper noun is part of the name.
- 274.** c. The connecting word between the two clauses creates an illogical statement. The word *unless* should be changed to the word *but*.
- 275.** d. All the answer choices are correct.
- 276.** b. This is a sentence fragment.
- 277.** d. All the answer choices are correct.
- 278.** a. This sentence makes an illogical shift in tense—from the past to the present tense.
- 279.** a. probably
- 280.** c. pronunciation
- 281.** d. All the words are spelled correctly.
- 282.** b. principal
- 283.** a. schedule
- 284.** c. knowledge
- 285.** d. All the words are spelled correctly.
- 286.** a. scissors
- 287.** a. embarrassed
- 288.** d. All the words are spelled correctly.
- 289.** b. This is the only choice that results in a logical statement. Choice **a** can be ruled out because fairness does not necessarily follow toughness; **c** and **d** are illogical.
- 290.** c. This is the only choice that results in a logical statement. The other choices can be ruled out because they seem to contradict the idea that Julia is an accomplished musician.
- 291.** b. In the other choices, the pronoun reference is ambiguous—who's in the hospital? Choice **c** also contains a misplaced modifier, *When in the hospital*, which seems to refer to *a phone call*.
- 292.** d. The other answers contain unnecessary shifts in person from *I* to *one*, *you*, and *a person*.
- 293.** b. This is the only choice that is clear and unambiguous. All the other choices contain misplaced modifiers, resulting in unclear and illogical statements.
- 294.** a. This choice is clear, has no misplaced modifiers, and has no shifts in verb tense. Choices **b** and **d** have misplaced modifiers and result in unclear sentences; **c** has an unnecessary shift from past to present tense.
- 295.** a. The other choices are much too broad to be adequately covered in a short essay.
- 296.** c. This is the only choice that directly mentions the topic of nearsightedness.
- 297.** d. This sentence shifts the topic away from the hottest decade on record.
- 298.** d. This sentence sums up the information already given and is best used as this paragraph's concluding sentence.

Scoring

Your raw score on the HSPT will be converted by the Scholastic Testing Service into a standard score to be reported on a scale of 200–800, but for the purpose of seeing how you do on these practice test, just consider simple percentages.

First find the number of questions you got right in each section. Questions you skipped or got wrong don't count; just add up how many questions you got right in each section. Then divide the number of questions you got right by the number of questions in each section:

Part 1: Verbal Skills

correct divided by 60 = %

Part 2: Quantitative Skills

correct divided by 52 = %

Part 3: Reading

correct divided by 62 = %

Part 4: Mathematics

correct divided by 64 = %

Part 5: Language Skills

correct divided by 60 = %

It is up to the individual high schools to decide what is an acceptable score for admission as a high school freshman. You want to try for the best possible score you can reach, in order to be sure of getting into the school you choose. You can use the percentage scores to show you which are your strong and weak areas. You should study all the chapters of this book that relate to the HSPT exam, but you should spend more time on the chapters that relate to the parts of the exam you had the most trouble with. Later, when you take the second HSPT exam in this book, you can compare your percentages on that exam with this first exam to see how much you've improved.

The table on this page shows you which parts of the practice HSPT you just took correspond with which chapters of this book. That way, you'll know where to concentrate your study time.

HSPT Part	Chapter(s)
1, Verbal Skills	7, Vocabulary 9, Verbal Reasoning
2, Quantitative Skills	11, Nonverbal Reasoning 12, Math Skills
3, Reading	6, Reading Comprehension
4, Mathematics	12, Math Skills
5, Language Skills	8, Language Skills

Chapter 5— Practice COOP Exam 1

Chapter Summary

This is the first of the two practice tests in this book based on the Cooperative Entrance Exam (COOP). Use this test to see how you would do if you were to take the exam today.

Like the actual COOP that you will be taking, this practice exam is divided into seven separate tests, covering seven different skills. Before you actually begin the exam, you will be given a list of 20 definitions of nonsense words to be memorized for the Memory section, which is Test 3. Then the test itself will be given, subdivided and timed as follows:

Test 1: Sequences-20 questions, 15 minutes

Test 2: Analogies-20 questions, 7 minutes

Test 3: Memory-20 questions, 5 minutes. This test contains questions over the nonsense words you memorized when you came in.

Test 4: Verbal Reasoning-20 questions, 15 minutes 15 minute break

Test 5: Reading Comprehension-40 questions, 40 minutes

Test 6: Mathematics Concepts and Applications-40 questions, 35 minutes

Test 7: Language Expression-40 questions, 30 minutes

Although the exam is timed, it will probably be best not to be concerned about that on this first practice exam. Just get some sharpened number 2 pencils, find a place where you won't be disturbed, and take this practice test in as low-key a way as possible, so that you can to find out which areas you are best at and which ones will need extra effort.

The answer sheet you should use for the multiple-choice questions is on the following page. After that comes the exam itself and then the answer key. Many, though not all, of the answers in the key are accompanied by detailed explanations. Read these carefully, as they will tell you why your correct answers are right and your incorrect ones wrong. The answer key is followed by a scoring section so you can see how well you did on the exam.

**Test 1—
Sequences**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

**Test 2—
Analogies**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

**Test 3—
Memory**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

**Test 4—
Verbal Reasoning**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

Test 5—
Reading Comprehension

1. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	15. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	16. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	17. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	18. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	19. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	20. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
14. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Test 6—
Mathematics Concepts and Applications

1. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	15. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	16. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	17. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	18. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	19. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	20. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
14. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Test 7—
Language Expression

1. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	15. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	16. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	17. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	18. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	19. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	20. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
14. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Definitions for Memory Questions

Take 12 minutes to read, study, and commit to memory the nonsense words and their definitions. (To simulate a real test, have someone read the sentence to you at the beginning of your study.) Later you will be asked to identify the words without reference to their printed definitions.

1. A *chinry* is a small bird.
2. A *roofel* is a carrot.
3. *Wenner* means "to run."
4. *Voolie* means frightened.
5. A *karmet* is a fireplace.
6. *Otlar* means "to sleep."
7. A *logand* is a peanut.
8. A *furtri* is a bear.
9. *Butranig* means hot and humid.
10. A *fluufstan* is a pillow.
11. *Kevvet* means "to study."
12. A *thaarmich* is a cottage.
13. *Sniq* means icy.
14. An *isholog* is a bulletin board.
15. *Harris* means water.
16. *Chep* means "to work."
17. An *oberamert* is an electrician.
18. *Trepenets* means chemistry.
19. *Trepenets* means chemistry.
20. A *yiilse* is a guitar.

TEST 1: SEQUENCES

You have 15 minutes for this section. Select the answer choice that best completes the sequence given.

1. —

- a.
- b.
- c.
- d.

2. —

- a.
- b.
- c.
- d.

3. —

- a.
- b.
- c.
- d.

4. —

- a.
- b.
- c.
- d.

5. —

- a.
- b.
- c.
- d.

6. —

- a.
- b.
- c.
- d.

7. —

- a.
- b.
- c.
- d.

8. 66 59 52 | 45 38 31 | 24 17 —

- a. 9
- b. 10
- c. 11
- d. 14

9. 7 10 19 | 14 17 19 | 2124 —

- a. 19
- b. 20
- c. 27
- d. 28

10. 5 15 14 | 10 20 19 | 15 25 —

- a. 20
- b. 24
- c. 30
- d. 35

11. 1/2 1 1/4 | 241 | 1—1/2

- a. 1/4
- b. 2
- c. 3
- d. 6

12. 27 54 9 | 15 30 5 | 18 36 —

- a. 6
- b. 9
- c. 12
- d. 25

13. 3 17 4 | 22 36 23 | 41 — 42

- a. 45
- b. 55
- c. 58
- d. 62

14. 12 6 3 | 16 8 4 | 36 — 9

- a. 4.5
- b. 6
- c. 18
- d. 27

15. QPO NML KJI_EDC

- a. HGF
- b. CAB
- c. JKL
- d. GHI

16. JAK KBL LCM MDN__

- a. OEP
- b. NEO
- c. MEN
- d. PFQ

17. B₂CD__BCD₄ B₅CD BC₆D

- a. B₂C₂D
- b. BC³D
- c. B₂C₃D
- d. BCD₇

18. ELFA GLHA ILJA___MLNA

- a. OLPA
- b. KLMA
- c. LLMA
- d. KLLA

19. P₅QR P₄QS P₃QT___PQV

- a. PQW
- b. PQV₂
- c. P₂QU
- d. PQ₃U

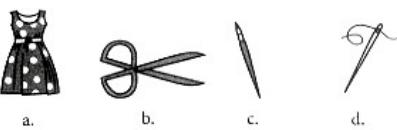
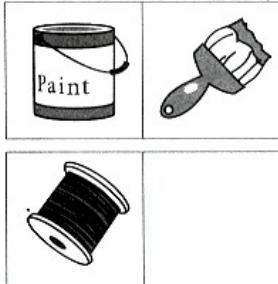
20. CMM EOO GQQ___KUU

- a. GRR
- b. GSS
- c. ISS
- d. ITT

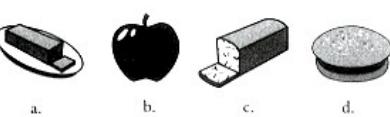
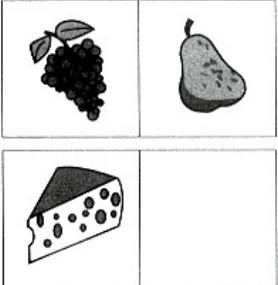
TEST 2: ANALOGIES

You have 7 minutes for this section. For Numbers 1 through 20, choose the picture that would go in the empty box so that the two bottom pictures are related in the same way as the top two are related.

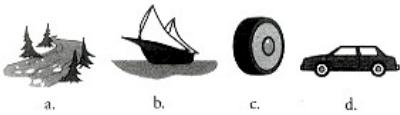
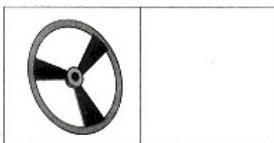
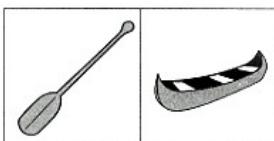
1.



2.



3.



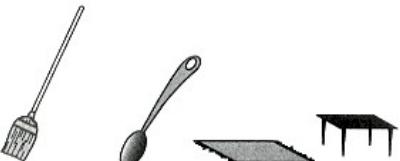
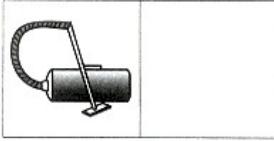
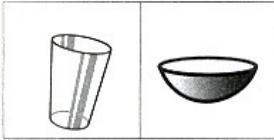
a.

b.

c.

d.

4.



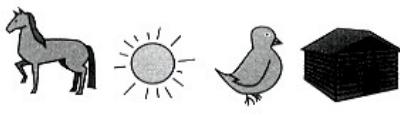
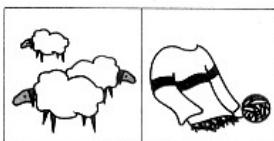
a.

b.

c.

d.

5.



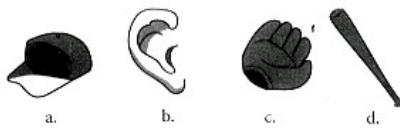
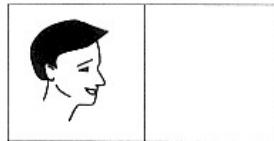
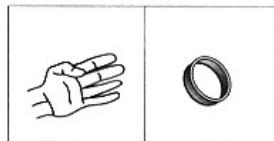
a.

b.

c.

d.

6.



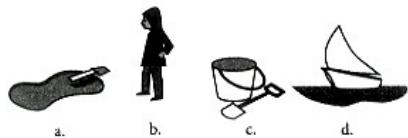
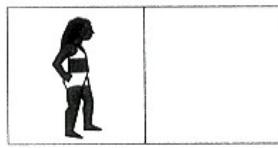
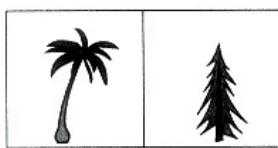
a.

b.

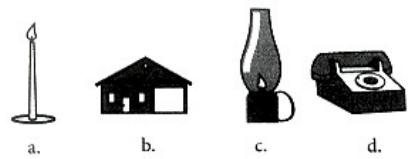
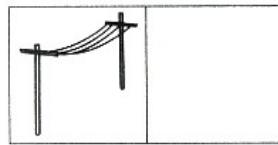
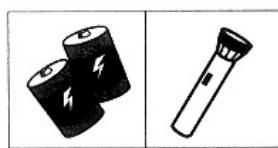
c.

d.

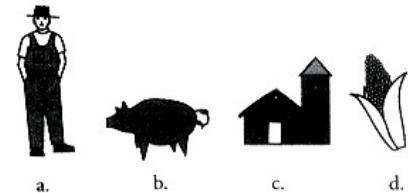
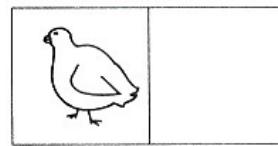
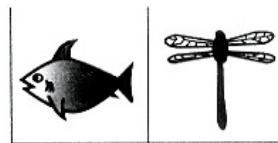
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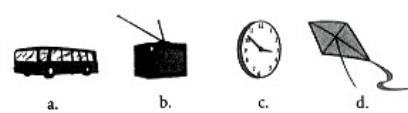
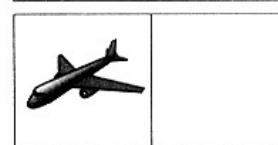
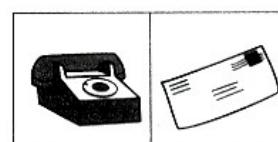
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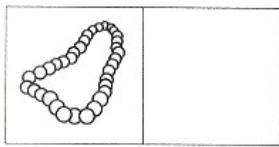
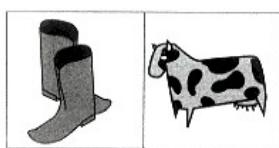


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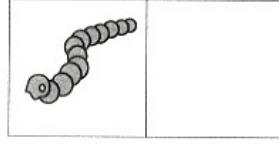
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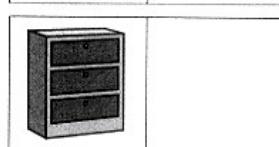
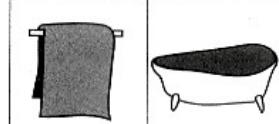
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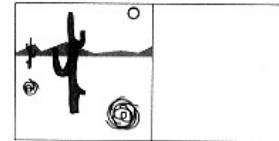
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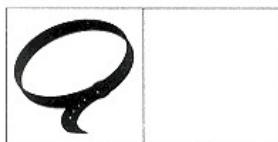
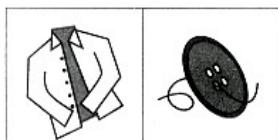
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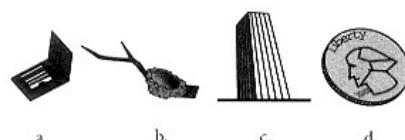
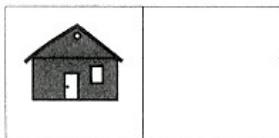
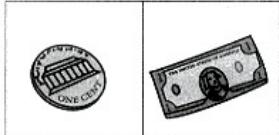


- a.
- b.
- c.
- d.

19.



20.

**TEST 3: MEMORY**

You have 5 minutes for this section. Draw on your memory of the nonsense words you studied at the beginning of the test to answer the following questions. Do not turn back to the list of words.

1. Which word means bear?

- a. sniq
- b. butranig
- c. furtri
- d. karmet

2. Which word means to run?

- a. wenner
- b. voolie
- c. chep
- d. otlar

3. Which word means water?

- a. trepenets
- b. hargis
- c. isholog
- d. fluuftan

4. Which word means electrician?

- a. oberamert
- b. zini
- c. thaarmich
- d. roofel

5. Which word means small bird?

- a. voolie
- b. karmet
- c. isholog
- d. chinry

6. Which word means to sleep?

- a. kevvet
- b. yiilse
- c. wenner
- d. otlar

7. Which word means peanut?

- a. hargis
- b. butranig
- c. logand
- d. roofel

8. Which word means icy?

- a. thaarmich
- b. sniq
- c. zini
- d. otlar

9. Which word means bulletin board?

- a. isholog
- b. fluuftan
- c. yiilse
- d. chinry

10. Which word means chemistry?

- a. furtri
- b. wenner
- c. trepenets
- d. kevvet

11. Which word means to study?

- a. oberamert
- b. kevvet
- c. karmet
- d. chep

12. Which word means cottage?

- a. roofel
- b. thaarmich
- c. sniq
- d. hargis

13. Which word means frightened?

- a. butranig
- b. trepenets
- c. otlar
- d. voolie

14. Which word means guitar?

- a. yiilse
- b. chinry
- c. isholog
- d. chep

15. Which word means honest?

- a. hargis
- b. wenner
- c. zini
- d. voolie

16. Which word means hot and humid?

- a. butranig
- b. logand
- c. hargis
- d. chep

17. Which word means carrot?

- a. chinry
- b. kevvet
- c. oberamert
- d. roofel

18. Which word means to work?

- a. fluuftan
- b. chep
- c. zini
- d. wenner

19. Which word means fireplace?

- a. logand
- b. chinry
- c. karmet
- d. thaarmich

20. Which word means pillow?

- a. yiilse
- b. isholog
- c. furtri
- d. fluuftan

TEST 4: VERBAL REASONING

You have 15 minutes for this section.

For Numbers 1 through 6, find the word that names a necessary part of the underlined word.

1. book

- a. fiction
- b. pages
- c. pictures
- d. learning

2. piano

- a. orchestra
- b. notes
- c. teacher
- d. keyboard

3. shoe

- a. sole
- b. leather
- c. laces
- d. walking

4. respiration

- a. mouth
- b. circulation
- c. oxygen
- d. carbon monoxide

5. election

- a. president
- b. voter
- c. November
- d. nation

6. temperature

- a. heat
- b. degree
- c. cloud
- d. change

For Numbers 7 through 12, the words in the top row are related in some way. The words in the bottom row are related in the same way. For each item, find the word that completes the bottom row of words.

7. saw screwdriver hammer

spade hoe _____

- a. carpenter
- b. gardener
- c. rake
- d. wrench

8. snow mountain ski

warmth lake _____

- a. sand
- b. swim
- c. sunburn
- d. vacation

9. candle lamp floodlight

hut cottage _____

- a. tent
- b. city
- c. dwelling
- d. house

10. aspirin medicine pharmacy

lettuce vegetable _____

- a. grocery
- b. carrots
- c. fruit
- d. shopping

11. tadpole frog amphibian

lamb sheep _____

- a. animal
- b. wool
- c. farm
- d. mammal

- a. swerve
- b. hurl
- c. jump
- d. dance

12. walk skip run
toss pitch

For Numbers 13 through 18, find the statement that is true according to the given information.

13. Erin is twelve years old. For three years, she has been asking her parents for a dog. Her parents have told her that they believe a dog would not be happy in an apartment, but they have given her permission to have a bird. Erin has not yet decided what kind of bird she would like to have.

- a. Erin's parents like birds better than they like dogs.
- b. Erin does not like birds.
- c. Erin and her parents live in an apartment.
- d. Erin and her parents would like to move.

14. Last summer, Mike spent two weeks at a summer camp. There, he went hiking, swimming, and canoeing. This summer, Mike looks forward to attending a two-week music camp, where he hopes to sing, dance, and learn to play the guitar.

- a. Mike's parents want him to learn to play the guitar.
- b. Mike prefers music to outdoor activities.
- c. Mike goes to some type of camp every summer.
- d. Mike likes to sing and dance.

15. The Pacific yew is an evergreen tree that grows in the Pacific Northwest. The Pacific yew has a fleshy, poisonous fruit. Recently, taxol, a substance found in the bark of the Pacific yew, was discovered to be a promising new anticancer drug.

- a. Taxol is poisonous when taken by healthy people.
- b. Taxol has cured many people who are ill.
- c. People should not eat the fruit of the Pacific yew.
- d. The Pacific yew was considered worthless until taxol was discovered.

16. On weekends, Mr. Sanchez spends many hours working in his vegetable and flower gardens. Mrs. Sanchez spends her free time reading and listening to classical music. Both Mr. Sanchez and Mrs. Sanchez like to cook.

- a. Mr. Sanchez enjoys planting and growing vegetables.
- b. Mr. Sanchez does not like classical music.
- c. Mrs. Sanchez cooks the vegetables that Mr. Sanchez grows.
- d. Mrs. Sanchez enjoys reading nineteenth-century novels.

17. On January 4, 1998, the city of Mitchelville

recorded its lowest temperature since 1896. The temperature in Mitchelville on January 4 was 5 degrees Fahrenheit. Two days earlier, two inches of snow fell on the city, and this was an 82-year-old record.

- a. The temperature in Mitchelville has never reached 4 degrees Fahrenheit.
- b. Deep snow in Mitchelville is extremely rare.
- c. Temperatures were not recorded in Mitchelville prior to 1896.
- d. Mitchelville has mild winters and mild summers.

18. Venus and her sister Verna are twins. Venus has short hair; Verna has long hair. Venus's favorite color is violet; Verna's favorite color is goldenrod. Venus wears khaki pants and jeans while Verna only wears skirts. Venus likes math more than she does English literature. Verna belongs to the drama club and is on the track team.

- a. Venus is a better student than Verna.
- b. Verna is a better athlete than Venus.
- c. Venus and Verna do not dress alike.
- d. Verna would never wear a violet sweater.

For Numbers 19 and 20, find the correct answer.

19. Here are some words translated from an artificial language.

- dionot means oak tree
blyonot means oak leaf
biycriin means maple leaf

Which word means maple syrup?

- a. blymuth
- b. hupponot
- c. patricrin
- d. crinweel

20. Here are some words translated from an artificial language.

- lilomarj means green paint
lernobix means vegetable soup
bixelam means soup

Which word means green vegetable?

- a. lilobix
- b. lilolemo
- c. lernomarj
- d. marjlerno

TEST 5: READING COMPREHENSION

You have 40 minutes for this section.

For Numbers 1 through 4, read the passage carefully. Then read each item and choose the correct answer.

The National Aeronautic and Space Administration (NASA) waited twenty-five years to send another craft to land on the moon. The Lunar Prospector took off in January of 1998, in the first moon shot since astronauts last walked on the moon in 1972. On this trip, the moon-traveler was only a low-cost robot, who would spend a year on the surface of the moon, collecting minerals and ice.

Unlike the moon shots of the 1960s and 1970s, Lunar Prospector did not carry a camera, so the American public did not get to see new pictures of the moon's surface. Instead, Prospector carried instruments that would map the make-up of the entire surface of the moon. Scientists were anxious for the results of one exploration in particular—that done by the neutron spectrometer. Using this instrument, Prospector examined the moon's poles, searching for signs of water ice. There has long been speculation that frozen water from comets may have accumulated in craters at one of the moon's poles and may still be there, as this

pole is permanently shielded from the sun. The neutron spectrometer can detect the presence of as little as one cup of water in a cubic yard of soil.

1. Which of the following pieces of information is included in the passage?

- a. why NASA waited twenty-five years between moon landings
- b. how many astronauts walked on the moon in 1972
- c. what the purpose of the neutron spectrometer was
- d. if frozen water was detected on the moon

2. One difference between the 1998 moon landing and the 1972 moon landing is that

- a. on the 1998 landing, no astronauts walked on the moon
- b. on the 1998 landing, robots were not used
- c. on the 1972 landing, Americans did not see pictures of the moon
- d. on the 1972 landing, minerals were not collected

3. How were minerals collected during the Lunar Prospector mission?

- a. by astronauts
- b. by a robot
- c. by the neutron spectrometer
- d. by an instrument that is not named in the passage

4. Which of the following is the best meaning of the underlined word speculation as it is used in the second paragraph of the passage?

- a. a theory
- b. an investment
- c. a vision
- d. an image

For Numbers 5 through 9, read the passage carefully. Then read each item and choose the correct answer.

The human body can tolerate only a small range of temperature, especially when the person is engaged in vigorous activity. Heat reactions usually occur when large amounts of water and/or salt are lost through excessive sweating following strenuous exercise. When the body becomes overheated and cannot eliminate this excess heat, heat exhaustion and heat stroke are possible.

Heat exhaustion is generally characterized by clammy skin, fatigue, nausea, dizziness, profuse perspiration, and sometimes fainting, resulting from an inadequate intake of water and the loss of fluids. First aid treatment for this condition includes having the victim lie down, raising the feet 8–12 inches, applying cool, wet cloths to the skin, and giving the victim sips of salt water (1 teaspoon per glass, half a glass every 15 minutes), over the period of an hour.

Heat stroke is much more serious; it is an immediate life-threatening situation. The characteristics of heat stroke are a high body temperature (which may reach 106 F or more); a rapid pulse; hot, dry skin; and a blocked sweating mechanism. Victims of this condition maybe unconscious, and first aid measures should be directed at cooling the body quickly. The victim should be placed in a tub of cold water or repeatedly sponged with cool water until his or her temperature is lowered sufficiently. Fans or air conditioners will also help with the cooling process. Care should be taken, however, not to over-chill the victim once the temperature is below 102 F.

5. The author's main purpose in writing this passage is most likely to
- inform readers about the dangers of heat reactions
 - train medical personnel how to care for victims of heat stroke
 - challenge the current misunderstandings about what causes heat reactions
 - show readers the importance of getting first-aid training

6. The most immediate concern of a person tending a victim of heat stroke should be to

- get salt into the victim's body
- raise the victim's feet
- lower the victim's pulse
- lower the victim's temperature

7. Which of the following is a symptom of heat exhaustion?

- unconsciousness
- profuse sweating
- hot, dry skin
- a weak pulse

8. Heat stroke is more serious than heat exhaustion because heat stroke victims

- do not sweat
- have no salt in their bodies
- cannot take in water
- have frequent fainting spells

9. Symptoms such as nausea and dizziness in a heat exhaustion victim indicates that the person most likely needs to

- be immediately taken to a hospital
- be given more salt water
- be immersed in a tub of water
- sweat more

For Numbers 10 through 14, read the passage carefully. Then read each item and choose the correct answer.

As soon as she sat down on the airplane, Rachel almost began to regret telling the travel agent that she wanted an exotic and romantic vacation. As the plane hurtled toward Rio de Janeiro, she read the information on Carnival that was in the pocket of the seat in front of hers. The very definition of Carnival made her shiver. It was from the Latin *carnavale*, meaning a farewell to the flesh. She was searching for excitement, but had no intention of bidding her skin good-bye. Carnival, the brochure informed her, originated in Europe in the Middle Ages and served as a break from the requirements of daily life and society. Most of all, it allowed the hard-working and desperately poor serfs the opportunity to ridicule their wealthy and normally humorless masters. Rachel, a middle manager in a computer firm, wasn't entirely sure whether she was more serf or master. Should she be making fun, or would others be mocking her? She was strangely relieved when the plane landed, as though her fate were decided.

Rachel chewed on her lower lip as she stood before the mirror in her hotel room, choosing first one dress then another, trying to decide which outfit was the most serf-like. Nothing in her "dress for success" seminar had prepared her for this all-important decision. Finally, wearing her brightest blouse and skirt, she headed for the street, determined to find adventure.

10. What is this passage mainly about?

- what life is like in Rio de Janeiro
- the history of Carnival
- a traveler on an exciting vacation
- how to dress for success

11. Rachel was nervous on the airplane because she

- a. was afraid to fly
- b. thought Carnival sounded very exotic
- c. forgot her travelers' checks
- d. was worried she would lose her luggage

12. The passage implies that Rachel

- a. is traveling alone
- b. takes a vacation every year
- c. has never traveled abroad before
- d. speaks Portuguese

13. According to the passage, Carnival

- a. lasts for several days
- b. originated in Europe
- c. occurs in February
- d. is famous for good food

14. Which of these sentences would most logically begin the next paragraph of this story?

- a. Settling herself comfortably at a table in the hotel coffee shop, Rachel began writing a post card to her mother.
- b. Later that night, as Rachel tossed in her bed, worried about the money she was spending.
- c. Rachel entered the huge office building and rode the elevator to the twelfth floor, the location of her 9:00 business meeting.
- d. As soon as she left the hotel, Rachel was surrounded by the sights and sounds of Carnival.

For Numbers 15 through 19, read the passage carefully. Then read each item and choose the correct answer.

On February 3, 1956, Autherine Lucy became the first African-American student to attend the University of Alabama, although the dean of women refused to allow Autherine to live in a university dormitory. White students rioted in protest of her admission, and the federal government had to assume command of the Alabama National Guard in order to protect her. Nonetheless, on her first day in class, Autherine bravely took a seat in the front row. She remembers being surprised that the professor of the class appeared not to notice she was even in class. Later she would appreciate his seeming indifference, as he was one of only a few professors to speak out in favor of her right to attend the university.

For protection, Autherine was taken in and out of classroom buildings by the back door and driven from class to class by an assistant to the president of the university. The students continued to riot, and one day the windshield of the car she was in was broken. University officials suspended her, saying it was for her own safety. When her attorney issued a statement in her name protesting her suspension, the university used it as grounds for expelling her for insubordination. Although she never finished her education at the University of Alabama, Autherine Lucy's courage was an inspiration to African-American students who followed in her footsteps and desegregated universities all over the United States.

15. According to the passage, what did Autherine Lucy do on her first day at the University of Alabama?

- a. She moved into a dormitory.
- b. She sat in the front row of her class.
- c. She became terrified of the rioters.
- d. She befriended the assistant to the president of the university.

16. Based on the information in the passage, which of the following best describes Autherine Lucy?

- a. quiet and shy
- b. courageous and determined
- c. clever and amusing
- d. overly-dramatic

17. When she began classes at the university, Autherine Lucy expected to

- a. stand out from the other students
- b. have the support of the university faculty
- c. join an African-American organization for protection
- d. be ridiculed by the professors

18. Autherine Lucy never graduated from the University of Alabama because she

- a. moved to another state
- b. transferred to another university
- c. dropped out because of pressure from other students
- d. was expelled for insubordination

19. According to the passage, which of the following is true?

- a. The Alabama National Guard is normally under the command of the U.S. Army.
- b. In 1956, the only segregated university in the United States was in Alabama.
- c. Autherine Lucy was escorted to and from class by the university president's assistant.
- d. A few white students at the university were pleased that Autherine Lucy was a student there.

For Numbers 20 through 23, read the passage carefully. Then read each item and choose the correct answer.

A healthy diet with proper nutrition is essential for maintaining good overall health. Since vitamins were discovered early in the twentieth century, people have routinely been taking vitamin supplements for this purpose. The Recommended Dietary Allowance (RDA) is a frequently used nutritional standard for maintaining optimal health. The RDA specifies the recommended amount of a number of nutrients for people in many different age and gender groups. The National Research Council's Committee on Diet and Health has proposed a definition of the RDA to be the amount of a nutrient that meets the needs of 98 percent of the population.

The RDA approach has a number of shortcomings. First, it is based on the assumption that it is possible to accurately define nutritional requirements for a given group. However, individual nutritional requirements can vary widely within each group. The efficiency with which a person converts food intake into nutrients can also vary widely. Certain foods when eaten in combination actually prevent the absorption of nutrients. For example, spinach combined with milk reduces the amount of calcium available to the body from the

milk. Also, the RDA approach specifies a different dietary requirement for each age and gender, and it is clearly unrealistic to expect a homemaker to prepare a different menu for each family member. Still, although we cannot rely solely upon RDA to ensure our overall long-term health, it can be a useful guide so long as its limitations are recognized.

20. In the first paragraph, the author focuses on

- a. proper nutrition for various age groups
- b. the definition of the RDA
- c. the discovery of vitamins in the twentieth century
- d. the number of nutrients people need

21. With which of the following would the author most likely agree?

- a. The RDA approach should be replaced by a more realistic nutritional guide.
- b. The RDA approach should be supplemented with more specific nutritional guides.
- c. In spite of its flaws, the RDA approach is definitely the best guide to good nutrition.
- d. The RDA approach is most suitable for a large family.

22. According to the passage, a woman will get less calcium from the milk she drinks if she

- a. does not take in the recommended daily allowance of calcium
- b. is older than 98 percent of the population
- c. eats spinach during the same meal
- d. eats unhealthy foods during the same meal

23. A synonym for the word shortcomings, as it is underlined and used in the second paragraph, is

- a. aspects
- b. phases
- c. viewpoints
- d. drawbacks

For Numbers 24 and 25, read the passage carefully. Then read each item and choose the correct answer.

Emperor Charlemagne of the Franks was crowned in 800 A.D. The Frankish Empire at that time extended over what is now Germany, Italy, and France. Charlemagne died in 814, but his brief reign marked the dawn of a distinctly European culture. The artists and thinkers that helped create this European civilization drew on the ancient texts of the Germanic, Celtic, Greek, Roman, Hebrew, and Christian worlds. Many of the traditions of these cultures remained active in Frankish society for centuries. These mores in turn laid the groundwork for the laws, customs, and even attitudes of today's Europeans.

24. According to the passage, for how many years was Charlemagne Emperor of the Franks?

- a. fourteen years
- b. fifteen years
- c. thirteen years
- d. sixteen years

25. What does the passage imply about modern European culture?

- a. It began well after the death of Charlemagne.
- b. Charlemagne forced his ideas about culture on the Europeans.
- c. It is more narrow than other cultures.
- d. It is made up of several different cultures.

For Numbers 26 through 30, read the passage carefully. Then read each item and choose the correct answer.

Before you turn up your boom box or buy front-row seats to a rock concert, you might want to consider how excessive noise affects your hearing. According to Nancy Hadler, Director of the League for the Hard of Hearing's Noise Center, dance clubs, over-amped stereos,

noisy vehicles, and even movie soundtracks can contribute to hearing loss.

Hearing loss is sly, slow, and irreversible. There are 30,000 tiny fibers inside each cochlea, which is the spiral-shaped cavity of the inner ear. These hair cells bend in response to sound and create a charge that stimulates the nerve endings at the bottom of each cell. With repeated noise bombardment, these nerve cells can burn out. Hadler compares the nerve fibers to a shag carpet. A good vacuuming will restore the fluffy nap, but if you walk across the same spot too many times, all the vacuuming in the world won't bring the dead fibers back.

Protect yourself from excessive, loud noise. If you are routinely exposed, wear earplugs. And turn down the sound on all your machines.

26. This passage is mainly about how

- a. to protect yourself from loud noise
- b. the inner ear works
- c. loud noise affects hearing
- d. a person's nerve cells are destroyed

27. According to the passage, the cochlea is

- a. a tiny nerve fiber
- b. part of the inner ear
- c. part of the outer ear
- d. a synonym for the term *hearing loss*

28. The passage includes a metaphor (comparison) that compares a shag carpet to

- a. loud music
- b. ear plugs
- c. hearing loss
- d. tiny fibers in the ear

29. Which of the following most likely states the opinion of the author?

- a. Wear ear plugs when you operate any loud machinery.
- b. Give up going to the movie theater.
- c. Have your hearing tested every six months.
- d. Don't listen to music on a boom box.

30. A synonym for the word routinely, as it is underlined and used in the last paragraph, is

- a. sometimes
- b. regularly
- c. carelessly
- d. periodically

For Numbers 31 through 34, read the passage carefully. Then read each item and choose the correct answer.

O'Connell Street is the main thoroughfare of Dublin City. Although it is not a particularly long street, Dubliners will tell the visitor proudly that it is the widest street in all of Europe. This claim usually meets with protests, especially from French tourists, claiming the Champs Elysees of Paris as Europe's widest street. But the witty Dubliner will not relinquish bragging rights easily and will trump the French visitor with a fine distinction: the Champs Elysees is a *boulevard*; O'Connell is a *street*.

Divided by several important monuments running the length of its center, the street is named for Daniel O'Connell, an Irish patriot. His monument stands at the lower end of the road, that is, the end closest to the river Liffey that bisects Dublin. O'Connell stands high above the unhurried crowds of shoppers, business people, and students on a sturdy column, surrounded by four serene angels seated at each corner of the monument's base. Further up the street is the famous General Post Office that the locals affectionately

call "the GPO." During the 1916 rebellion, the GPO was taken over and occupied by the Irish rebels to British rule, sparking weeks of armed combat in the city's center. To this day, the angels of O'Connell's monument bear the marks of the fighting.

31. Which of the following would be the best title for this passage?

- a. "Dublin's Famous Monuments"
- b. "The Irish Take Pride in Their Capitol City"
- c. "The Widest Street in Europe"
- d. "Sights and History on Dublin's O'Connell Street"

32. What is the best definition for the underlined word trump as it is used in the first paragraph of the passage?

- a. to trumpet loudly, to blare or drown out
- b. to trample
- c. to get the better of by using a key or hidden resource
- d. to devise a fraud, to employ trickery

33. According to the passage, which of the following cuts through the center of Dublin?

- a. O'Connell Street
- b. the river Liffey
- c. the GPO
- d. the Champs Elysees

34. With which of the following statements about the people of Dublin would the author of the passage most likely agree?

- a. They are proud of their history but lack industry.
- b. They are playful and tricky.
- c. They are rebellious and do not like tourists.
- d. They are witty and relaxed.

For Numbers 35 through 40, read the passage carefully. Then read each item and choose the correct answer.

The coast of the State of Maine is one of the most irregular in the world. A straight line running from the southern-most city in Maine, Kittery, to the northernmost coastal city, Eastport, would measure about 225 miles. If you followed the coastline between the same two cities, you would travel more than ten times as far. This irregularity is the result of what is called a *drowned coastline*. The term comes from the glacial activity of the ice age. At that time, the whole area that is now Maine was part of a mountain range that towered above the sea. As the glacier descended, however, it expended enormous force on those mountains and they sank into the sea.

As the mountains sank, ocean water charged over the lowest parts of the remaining land, forming a series of twisting inlets and lagoons. Once the glacier receded, the highest parts of the former mountain range that were nearest the shore remained as islands. Although the mountain ranges were never to return, the land rose somewhat over the centuries. On Mt. Desert Island, one of the most famous of these islands, marine fossils have been found at 225 feet above today's sea level.

For years, Mt. Desert Island, particularly its major settlement, Bar Harbor, afforded summer homes for the wealthy. Recently, Bar Harbor has made a name for itself as a burgeoning arts community as well. But there is much more to Mt. Desert Island than a sophisticated and wealthy playground. A majority of the island is unspoiled forest land, and it makes up the greatest part of Acadia National Park. Mt. Desert Island sits on the boundary line between the temperate and sub-Arctic zones. The island, therefore, supports the flora and fauna of both zones, as well as beach, inland, and alpine plants.

35. Which of the following lists of topics best outlines the information in the selection?

a. - Ice-age glacial activity

-Maine's mountain ranges

-Summer residents of Mt. Desert Island

b. - Formation of a drowned coastline

-Formation of coastal islands

-The environment of Mt. Desert Island

c. - Mapping the Maine coastline

-The arts community at Bar Harbor

-History of the National Park system

d. The effect of glaciers on small islands

- The importance of bio-diversity

-Acadia National Park

36. Which of the following statements best expresses the main idea of the last paragraph?

a. The wealthy residents of Mt. Desert Island selfishly kept it to themselves.

b. Acadia National Park is most likely one of the smallest of the national parks.

c. On Mt. Desert Island, there is tension between the year-round residents and the summer tourists.

d. Mt. Desert Island supports an incredibly diverse animal and plant life.

37. According to the selection, the large number of small islands along the coast of Maine are the result of

a. glaciers forcing a mountain range into the sea

b. Maine's location between the temperate and sub-Arctic zones

c. the irregularity of the Maine coast

d. the need for summer communities for wealthy tourists and artists

38. According to the selection, the coast of Maine is

a. 2500 miles long

b. 3500 miles long

c. 225 miles long

d. 235 miles long

39. According to the passage, when the glacier moved over what is now the state of Maine, it helped to create all of the following EXCEPT

a. an irregular coastline

b. coastal islands

c. a mountain range

d. inlets and lagoons

40. One of the main reasons that Mt. Desert Island has so many different plants and animals is because

a. there are so many wealthy people who live there

b. Bar Harbor is a national park

c. it is all forest land

d. it sits between two climate zones

TEST 6: MATHEMATICS CONCEPTS AND APPLICATIONS

You have 35 minutes for this section. For Numbers 1 through 40, read each problem and find the answer.

1. What is another name for 20,706?

- a. $200 + 70 + 6$
- b. $2,000 + 700 + 6$
- c. $20,000 + 70 + 6$
- d. $20,000 + 700 + 6$

2. Which of the following choices is divisible by 6 and 7?

- a. 63
- b. 74
- c. 84
- d. 96

3. Which of the following means $5n + 7 = 17$?

- a. 7 more than 5 times a number is 17
- b. 5 more than 7 times a number is 17
- c. 7 less than 5 times a number is 17
- d. 12 times a number is 17

4. What is another way to write 3^4 ?

- a. 12
- b. 24
- c. 27
- d. 81

5. Dan rented two movies to watch last night. The first was 1 hour 40 minutes long, the second 1 hour 50 minutes long. How much time did it take for Dan to watch the two videos?

- a. 4.5 hours
- b. 3.5 hours
- c. 2.5 hours
- d. 1.5 hours

6. Which of the following is an improper fraction?

- a. $22/60$
- b. $66/22$
- c. $90/100$
- d. $1000/2600$

7. Mario has finished 35 out of 45 of his test questions. Which of the following fractions of the test does he have left?

- a. $2/9$
- b. $7/9$
- c. $4/5$
- d. $3/5$

8. $(-12) + 4 =$

- a. 8
- b. -4
- c. -8
- d. -16

9. What is the square root of 16?

- a. 32
- b. 8
- c. 4
- d. 2

10. Samuel paid \$5.96 for 4 pounds of cookies. How much do the cookies cost per pound?

- a. \$1.96 per pound
- b. \$2.33 per pound
- c. \$1.49 per pound
- d. \$2.15 per pound

11. One inch equals 2.54 centimeters. How many centimeters are there in a foot?

- a. 30.48 centimeters
- b. 32.08 centimeters
- c. 31.79 centimeters
- d. 29.15 centimeters

12. What is six and five hundredths written as a decimal?

- a. .065
- b. 6.5
- c. 6.05
- d. 6.005

13. Which of the following decimals has the greatest value?

- a. 6.723
- b. 6.0723
- c. 6.7023
- d. 6.7

14. Gloria has finished reading 30% of a 340-page novel. How many pages has she read?

- a. 102
- b. 103
- c. 105
- d. 113

15. The perimeter of a rectangle is 148 feet. Its two longest sides add up to 86 feet. What is the length of each of its two shortest sides?

- a. 31 feet
- b. 42 feet
- c. 62 feet
- d. 72 feet

16. Which value of x will make this number sentence true? $x + 25 = 13$.

- a. -13
- b. -11
- c. 12
- d. 38

17. Which of the following is equivalent to $x^2 + 3x$?

- a. $x(x + 3)$
- b. $2(x + 3)$
- c. $(x + 3)^2$
- d. $(x + 1)(x + 3)$

18. When twenty-three is added to a number, ninety-nine is the result. What is the number?

- a. 67
- b. 76
- c. 108
- d. 122

19. How many faces does a cube have?

- a. 4 faces
- b. 6 faces
- c. 8 faces
- d. 12 faces

20. A right angle is

- a. 180 degrees
- b. greater than 90 degrees
- c. exactly 90 degrees
- d. less than 90 degrees

21. If a bus weighs 2.5 tons, how many pounds does it weigh? (1 ton = 2,000 pounds)

- a. 800
- b. 4,500
- c. 5,000
- d. 5,500

22. If Serena burns about 304.15 calories while walking fast on her treadmill for 38.5 minutes, about how many calories does she burn per minute?

- a. 7.8
- b. 7.09
- c. 7.9
- d. 8.02

23. 24% converted to a fraction =

- a. 1/24
- b. 6/24
- c. 1/25
- d. 6/25

24. 80% of 400=

- a. 480
- b. 340
- c. 320
- d. 180

25. Which mathematical expression best describes the quotient of two numbers added to a third number?

- a. $(x)(y) \div z$
- b. $(x + y)(z)$
- c. $x \div y + z$
- d. $(x + y) \div z$

26. What is the area of the following shaded triangle?



- a. 20 square units
- b. 25 square units
- c. 44 square units
- d. 46 square units

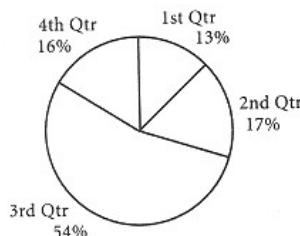
27. Molly needs $\frac{5}{8}$ of a cup of diced onion for a recipe. After chopping all the onion she has, Molly has $\frac{3}{5}$ of a cup of chopped onion. How much more chopped onion does she need?

- a. $\frac{1}{8}$ of a cup
- b. $\frac{1}{5}$ of a cup
- c. $\frac{1}{40}$ of a cup
- d. $\frac{1}{60}$ of a cup

28. Kitty litter costs \$3.59 for 25 pounds. How much does 100 pounds cost?

- a. \$14.36
- b. \$35.90
- c. \$17.95
- d. \$10.77

29. The chart shows quarterly sales for Cool-Air's air-conditioning units. Which of the following combinations contributed 70% to the total?



Sales For 1997

- a. first and second quarters
- b. second and third quarters
- c. second and fourth quarters
- d. third and fourth quarters

30. A traveling circus can sell 250 admission tickets for \$8 each. But if the tickets cost \$6 each, the circus can sell 400 tickets. How much larger are ticket sales when they cost \$6 each than when they cost \$8 each?

- a. \$160
- b. \$400
- c. \$500
- d. \$1700

31. A late night talk show host got a total of 63 laughs over five nights. How many laughs did he average per night?

- a. 5.6 laughs
- b. 14.8 laughs
- c. 6.3 laughs
- d. 12.6 laughs

32. When both seven and three are taken away from a number the result is 31. What is the number?

- a. 20
- b. 36
- c. 41
- d. 55

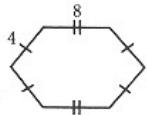
33. What is the circumference of a circle with a diameter of 5 inches?

- a. 2.5 inches
- b. 5 inches
- c. 6.25 inches
- d. 25 inches

34. What percentage of 600 is 750?

- a. 80%
- b. 85%
- c. 110%
- d. 125%

35. What is the perimeter of the polygon shown below?



- a. 12
- b. 16
- c. 24
- d. 32

36. Kirsten's dinner at a local restaurant cost \$13.85. If she wants to leave the server a tip that equals 20% of the cost of her dinner, how much of a tip should she leave?

- a. \$2.00
- b. \$2.67
- c. \$2.77
- d. \$3.65

37. The average of 54, 61, 70, and 75 is

- a. 55
- b. 62
- c. 65
- d. 68

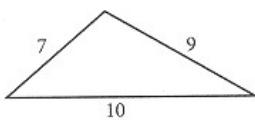
38. What is another way to write 7.25×10^3 ?

- a. 72.5
- b. 725
- c. 7,250
- d. 72,500

39. A triangle has one 30-degree angle and one 60-degree angle. Which of the following types of triangles is it?

- a. isosceles
- b. equilateral
- c. right
- d. scalene

40. What is the perimeter of the triangle below?



- a. 90
- b. 70
- c. 26
- d. 19

TEST 7: LANGUAGE EXPRESSION

You have 30 minutes for this section.

For Numbers 1 through 9, choose the word that best completes the sentence.

1. Joelle's favorite beverages are herb tea and mineral water, _____, drinks only milk or juice.

- a. however
- b. therefore
- c. then
- d. too

2. _____ our low interest rates, you will receive a free gift if you sign up now.

- a. While
- b. Because
- c. In spite of
- d. In addition to

3. Aunt Judy said dinner would be served at 6:30, but we didn't start eating _____ 7:15.

- a. less than
- b. until
- c. about
- d. since

4. My dog Charley is afraid of thunder; when there's a storm I cover his ears.

- a. mainly
- b. yet
- c. moreover
- d. consequently

5. Of the three brothers, Andre is the _____

- a. taller
- b. tallest
- c. more tall
- d. most tallest

6. Riding the Tornado at the amusement park was _____ than I thought it would be.

- a. more terrifying
- b. more terrifying
- c. terrifying
- d. most terrifying

7. On February 27, 1995, the fire department responded to a blaze that _____ out at the Icarus Publishing Company warehouse.

- a. breaks
- b. will break
- c. had broken
- d. is breaking

8. I am trying to become more skilled at weaving before winter _____.

- a. arrived
- b. will have arrived
- c. will arrive
- d. arrives

9. Glenda says that there _____ four different ways to peel an orange.

- a. is
- b. are
- c. was
- d. being

For Numbers 10 through 14, choose the sentence that is complete and that is correctly written.

- 10.** a. They finished cleaning up, left the building, and return home.
b. After they finished cleaning up, left the building, and returned home.
c. They finished cleaning up, left the building, and returned home.
d. They left the building and returning home when finishing cleaning up.
- 11.** a. My brother and I going to see the ball game.
b. My brother and I are going to see the ball game.
c. My brother and I seeing the ball game.
d. About to go see the ball game with my brother.
- 12.** a. After renting him the room, Alvin discovered that Mr. Morris owned a cat.
b. After renting him the room, a cat was discovered to belong to Mr. Morris.
c. A cat belonging to Mr. Morris was discovered by Alvin after renting him a room.
d. After renting him a room, Mr. Morris was discovered by Alvin to own a cat.
- 13.** a. We ate the popcorn and watch the movie.
b. While watching the movie, the popcorn was eaten.
c. Popcorn, while watching the movie, was eaten.
d. We ate the popcorn while we watched the movie.
- 14.** a. The play was performed without incident, except for a brief flare-up between the two stars.
b. The play was performed without incident. Except for a brief flare-up between the two stars.
c. The play was performed without incident, this was true except for a brief flare-up between the two stars.
d. The play, performed without incident, except for a brief flare-up between the two stars.

For Numbers 15 through 19, choose the sentence that uses verbs correctly.

- 15.** a. All the children will get out their rugs and took a nap.
b. I ate too many fried clams and become ill.
c. When we arrive in Singapore, it was raining.
d. At first I liked the sound of the wind, but later it got on my nerves.
- 16.** a. If you steal that petunia from Petra's flower garden, you were sorry.
b. My computer is state-of-the-art when I bought it five years ago, but now it is outmoded.
c. Because he felt he had been cheated, Mitchell demanded to see the president of the company.
d. We were jealous of Doug because he would have received preferential treatment from the coach.

- 17.** a. We stood on the shore and watch the waves roll onto the beach.
 b. While we were waiting for the bus, a man walks by and asks us for money.
 c. As the fire trucks roar through the downtown streets, the pedestrians stop and stare.
 d. Although the movers carefully packed the mirror, when we open the box it was cracked.

- 18.** a. I caught Maxine right after she had stolen my computer discs.
 b. If you don't stop playing those video games, your mind has become warped.
 c. Lieutenant Wells did not think the prisoner is capable of escaping.
 d. Rosie and I did not like each other at first, but now we get along fine.
- 19.** a. After the snow stopped falling, we all run outside and start building a snowman.
 b. I look forward to meeting you and have the opportunity to talk further.
 c. The exterminator said the problem was termites, but I didn't believe him.
 d. When members of Congress met yesterday, they take a vote.

For Numbers 20 through 22, choose the underlined part that is the simple subject of the sentence.

- 20.** The masked gunman ordered the bank
 a. customers to remove their jewelry and lie down
 b. c.
 on the floor.
 d.
- 21.** Because she was so secretive, we knew nothing
 a. b. c.
 about Betty.
 d.
- 22.** In many popular movies today, the heroes are
 a. b.
 more heavily armed than the villains.
 c. d.

For Numbers 23 through 25, choose the underlined part that is the simple predicate (verb) of the sentence.

- 23.** When not on duty, Mike, who is a police
 a. b. c.
 officer, relaxes by attending a cooking class.
 d.
- 24.** Apparently, she forgot that she had told me to
 a. b. c.
meet her at four o'clock.
 d.
- 25.** The person who made these delicious candied
 a. b. c.
 figs has my vote.
 d.

For Numbers 26 through 30, read the underlined sentences. Choose the sentence that best combines those sentences into one.

26. Everyone likes Earl.

I think he is sneaky.

- a. Everyone likes Earl, so I think he is sneaky.
 b. Everyone likes Earl, but I think he is sneaky.
 c. Everyone likes Earl when I think he is sneaky.
 d. Everyone likes Earl, or I think he is sneaky.

27. He did not return from his camping trip until 6:00 a.m.

We were all frantic with worry.

- a. He did not return from his camping trip until 6:00 a.m.; however, we were all frantic with worry.
- b. While we were all frantic with worry, he did not return from his camping trip until 6:00 a.m.
- c. He did not return from his camping trip until 6:00 a.m., whether we were all frantic with worry.
- d. Because he did not return from his camping trip until 6:00 a.m., we were all frantic with worry.

28. The owl parrot looks like a bird of prey.

The owl parrot feeds on vegetable matter.

- a. The owl parrot looks like a bird of prey; however, it feeds on vegetable matter.
- b. Feeding on vegetable matter, the owl parrot looks like a bird of prey.
- c. Looking like a bird of prey, vegetable matter is what the owl parrot feeds on.
- d. The owl parrot feeds on vegetable matter while it looks like a bird of prey.

29. The art festival will be held on Saturday, June 4. The art festival will display the paintings of local artists.

- a. On Saturday, June 4, the paintings of local artists will hold the art festival.
- b. The art festival—which will be held on Saturday, June 4—will display the paintings of local artists.
- c. The art festival will display the paintings of local artists, but it will be held on Saturday, June 4.
- d. Although the art festival will be held on Saturday, June 4, it will display the paintings of local artists.

30. Marchand Business School claims to train its students to become entrepreneurs.

Many graduates say Marchand Business School is guilty of false advertising.

- a. Guilty of false advertising, many graduates of Marchand Business School claim that it trains its students to become entrepreneurs.
- b. Many graduates of Marchand Business School say the school is guilty of false advertising when it trains its students to become entrepreneurs.
- c. Although Marchand Business School claims to train its students to become entrepreneurs, many of its graduates say the school is guilty of false advertising.
- d. Marchand Business School claims that its students are trained to become entrepreneurs when they are guilty of false advertising.

For Numbers 31 through 33, choose the topic sentence that best fits the paragraph.

31. _____.

You must imitate as closely as possible the parents' methods of feeding. First, hold the beak open using thumb and forefinger. Then, introduce food into the beak with tweezers or an eyedropper.

- a. Recently, I read an article about baby birds.
- b. Hand-rearing wounded or orphaned baby birds requires skill.
- c. Baby birds are very special creatures, and they are also very small.
- d. I have been told that you should not touch a baby bird that has fallen out of its nest.

32. _____.

All waves, though, have common characteristics that govern their height. The height of a wave is determined by its speed, the distance it travels, and the length of time the wind blows.

- a. Currents, unlike waves, are caused by steady winds or temperature fluctuations.
- b. *Tsunamis* used to be called tidal waves.
- c. Ocean waves can vary from tiny ripples to powerful, raging swells.
- d. A breaker is when a wave gets top-heavy and tips over.

33. _____.

When people respect the law too much, they will follow it blindly. They will say that the majority has decided on this law and therefore I must obey it. They will not stop to consider whether or not the law is fair.

- a. Some people say there is too little respect for the law, but I say there is too much respect for it.
- b. Sometimes a judge will decide that a law is unfair.
- c. I believe that the majority of the people in this country do not understand what it means to have respect for other people.
- d. Most of the laws passed at the end of the twentieth century are fair laws.

For Numbers 34 through 36, choose the answer that best develops the topic sentence.

34. The continuing fascination of the public with movie star Marilyn Monroe is puzzling, yet it is still strong, even after four decades.

- a. Marilyn became a star in the 1950s. She died in 1962.
- b. The film that most clearly demonstrates her talent is *The Misfits*. She is also known for her role in *Some Like It Hot*.
- c. Her name was originally Norma Jean. However, she didn't like this name and changed it to Marilyn.
- d. One reason might be her quick rise to fame. Another reason, however, might simply be her life's sad and premature end.

35. One scientific theory of the origin of the universe is the much-misunderstood Big Bang theory.

- a. A scientific theory, though plausible, is not necessarily accepted fact. A theory is simply an unproven assumption.
- b. Many scientists believe that, during microwave experiments, we can actually "hear" echoes of the Big Bang. Other scientists disagree.
- c. The popular notion is that the Big Bang was a huge explosion in space. But this is far too simple a description.
- d. Scientific theory is often confusing. The same is true of theories about the universe.

36. During colonial times in America, juries were encouraged to ask questions of the parties in the courtroom.

- a. The jurors were, in fact, expected to investigate the facts of the case themselves. If jurors conducted an investigation today, we would throw out the case.
- b. Many states are experimenting with new ways to get more people to serve on juries. All eligible voters can be called to serve.
- c. There are usually two attorneys: a prosecutor and a defense attorney. This sometimes makes the courtroom lively.
- d. There were thirteen colonies. Each colony at first had its own legal system.

For Numbers 37 and 38, read the paragraph. Choose the sentence that does NOT belong in the paragraph.

37. 1) Although nowadays almost everyone is familiar with the term "on-line," many people are puzzled as to exactly what it entails. 2) Every day, computers are dropping in price and becoming more affordable. 3) Getting on-line can be a frustrating experience, as one makes one's way through complex webs of information. 4) Indeed, unless one has a good teacher or an excellent guidebook, one may become hopelessly lost in cyberspace!

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence 4

38. 1) After a snow or ice fall, the city's streets are treated with ordinary rock salt. 2) In some areas, the salt is combined with calcium chloride, which is more effective in below-zero temperatures and which melts ice better. 3) Ice is hazardous to all who walk the city's sidewalks. 4) This combination of salt and calcium chloride is also less damaging to foliage along the roadways.

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence

For Numbers 39 and 40, read the paragraph. Choose the sentence that best fills the blank in the paragraph.

39. Before you begin to compose a business letter, sit down and think about your purpose in writing the letter. Do you want to request information, order a product, register a complaint, or apply for something? Do some brainstorming._____.

Always keep your objective in mind.

- a. Gather information before you begin writing.
- b. How many business letters do you write each month?
- c. Many people like to write their letters at a comfortable desk.
- d. Think about the more personal letters you write.

40. It weighs less than three pounds and is hardly more interesting to look at than an overly ripe cauliflower._____.

It has created poetry and music, planned and executed horrific wars, devised intricate scientific theories. It thinks and dreams, plots and schemes, and easily holds more information than all the libraries on earth.

- a. Yet the human brain is made of gelatinous matter and contains no nerve endings whatever.
- b. Yet the science of neurology has found a way to map the most important areas of the human brain.
- c. Yet the human brain is the most mysterious and complex object on earth.
- d. Besides, each person uses only ten percent of his or her brain!

ANSWERS**TEST 1:SEQUENCES**

- 1. b.** Look at each segment. In the first segment, the arrows are both pointing to the right. In the second segment, the first arrow is down and the second is up. The third segment repeats the first segment. In the fourth segment, the arrows are up and then down. Because this is an alternating series, the two arrows pointing right will be repeated, so **b** is the only possible choice.
- 2. b.** Notice that in each segment, the figures are all the same shape, but the one in the middle is larger than the two on either side. Also, notice that one of the figures is shaded and that this shading alternates first right and then left. To continue this pattern in the third segment, you will look for a square, which narrows your choices to either **a** or **b**. Choice **b** is correct because this choice will put the large square between the two smaller squares.
- 3. c.** This is an alternating series. In the first segment, the letter "E" faces right, then down, then left. In the second segment, the letters all face down. To follow this pattern, in the fourth segment, the letters must all face up.
- 4. c.** In this series, the shaded part inside the circle gets larger and then smaller.
- 5. d.** Look for opposites in this series of figures. The first and second segments are opposites of each other. The same is true for the third and fourth segments.
- 6. a.** Look carefully at the number of dots in each domino-like figure. The first segment goes from five to three to one. The second segment goes from one to three to five. The third segment repeats the first segment.
- 7. c.** All four segments use the same figures: two squares, one circle, and one triangle. In the first segment, the squares are on the outside of the circle and triangle. In the second segment, the squares are below the other two. In the third segment, the squares are on the inside. In the fourth segment, the squares are above the triangle and circle.
- 8. b.** In this simple subtraction series, each number is 7 less than the previous number.
- 9. a.** This is a simple alternating addition series, with a random number, 19, interpolated as every third number. The addition series alternates between adding 3 and adding 4. The number 19 appears after each number arrived at by adding 3.
- 10. b.** This is an alternating addition and subtraction series. In each set of three numbers, 10 is added to the first number and 1 is subtracted from the second number.
- 11. b.** This is an alternating multiplication and division series. In each segment, the first number is multiplied by 2, and then the second number is divided by 4.
- 12. a.** This is an alternating multiplication and division series. In each segment, the first number is multiplied by 2, and then the second number is divided by 6.
- 13. b.** This is an alternating addition series. Add 14 to the first number to get the second number. Add 1 to the first number to get the third number.
- 14. c.** This is a simple division series. Each number is half of the previous number.
- 15. a.** This series consists of letters in a reverse alphabetical order.
- 16. b.** This is an alternating series in alphabetical order. The middle letters follow the order ABCDE.

The first and third letters are alphabetical beginning with J. The third letter is repeated as a first letter in each subsequent three-letter segment.

17. **b.** Because the letters are the same, concentrate on the number series, which is a simple 2, 3, 4, 5, 6 series, and follows each letter in order.
18. **d.** The second and forth letters in this series, L and A, are static. The first and third letters consist of an alphabetical order beginning with the letter E.
19. **c.** The first two letters, PQ, are static. The third letter is in alphabetical order, beginning with R. The number series is in descending order beginning with 5.
20. **c.** The first letters are in alphabetical order with a letter skipped in between each segment: C, E, G, I, K. The second and third letters are repeated; they are also in order with a skipped letter: M, O, Q, S, U.

TEST 2:ANALOGIES

1. **d.** A can of paint is to a paint brush as a spool of thread is to a sewing needle. This is a relationship of function. Both show the tool needed to perform a task.
2. **a.** Grapes are to a pear as cheese is to butter. This relationship shows the grouping or category to which something belongs. Grapes and pears are fruit; cheese and butter are both dairy products.
3. **d.** An oar is to a canoe as a steering wheel is to a car. This is a functional relationship. The oar helps to steer the canoe in the way that the steering wheel steers the car.
4. **a.** Cup is to bowl as vacuum cleaner is to broom. This is another relationship about function. The cup and bowl are both used for eating. The vacuum cleaner and broom are both used for cleaning.
5. **d.** Sheep is to sweater as pine trees are to log cabin. Wool comes from the sheep to make a sweater; wood comes from the trees to make the log cabin.
6. **a.** Hand is to ring as head is to cap. A ring is worn on a person's hand; a cap is worn on a person's head.
7. **b.** A palm tree is to a pine tree as a bathing suit is to a parka. This relationship shows an opposite-warm to cold. Palm trees grow in warm climates and pine trees grow in cold climates. Bathing suits are worn in warm weather; parkas are worn in cold weather.
8. **d.** Batteries are to a flashlight as telephone wires are to a telephone. The batteries provide power to the flashlight; the wires send power to the telephone.
9. **d.** A fish is to a dragonfly as a chicken is to corn. Fish eat insects; chickens eat corn.
10. **a.** A telephone is to a stamped letter as an airplane is to a bus. A telephone and letter are both forms of communication. An airplane and bus are both forms of transportation.
11. **c.** A trapeze performer is to a clown as swings are to a sliding board. This relationship shows a classification. Trapeze performers and clowns are found at circuses; swings and sliding boards are found on playgrounds.
12. **c.** Camera is to photograph as tea kettle is to a cup of tea. The camera is used to make the photo; the teakettle is used to make the tea.
13. **b.** Hat and mittens are to desert as snorkel and flippers are to snow. This relationship shows an opposition. The hat and mittens are not worn in the desert; the snorkel and flippers are not worn in the snow.
14. **d.** Car is to horse and buggy as computer is to pen and ink. This relationship shows the difference between modern times and times past.

- 15. c.** Leather boots are to cow as pearl necklace is to oyster. The leather to make the boots comes from a cow; the pearls to make the necklace come from oysters.
- 16. b.** A toddler is to an adult as a caterpillar is to a butterfly. This relationship shows the young and the adult. The caterpillar is an early stage of the adult butterfly.
- 17. b.** Towel is to bathtub as chest of drawers is to bed. The towel and bathtub are both found in a bathroom; the chest and the bed are both found in a bedroom.
- 18. a.** A snow-capped mountain is to a crocodile as a cactus is to a starfish. This relationship shows an opposition. The crocodile does not belong on the mountain; the starfish does not belong in the desert.
- 19. c.** A shirt is to a button as a belt is to a belt buckle. A button is used to close a shirt; a belt buckle is used to close a belt.
- 20. c.** A penny is to a dollar as a small house is to a skyscraper. This relationship shows smaller to larger. A penny is much smaller than a dollar; a house is much smaller than a skyscraper.

TEST 3:MEMORY

Use the list of memory words on page 5 to check the answers to these questions.

- 1. c.**
- 2. a.**
- 3. b.**
- 4. a.**
- 5. d.**
- 6. d.**
- 7. c.**
- 8. b.**
- 9. a.**
- 10. c.**
- 11. b.**
- 12. b.**
- 13. d.**
- 14. a.**
- 15. c.**
- 16. a.**
- 17. d.**
- 18. b.**
- 19. c.**
- 20. d.**

TEST 4:VERBAL REASONING

- 1. b.** Some books are fiction, and some books have pictures. Learning may or may not take place with a book. The necessary part of a book is its pages.
- 2. d.** A keyboard is an essential part of a piano. Notes are byproducts. Pianos are not essential to an orchestra. Piano playing can be learned without a teacher.
- 3. a.** All shoes have a sole of some sort. Not all shoes are made of leather; nor do they all have laces. Walking is not essential to a shoe.
- 4. c.** A person or animal must take in oxygen for respiration to occur. A mouth is not essential because breathing can occur through the nose.
- 5. b.** Voters are essential to carrying out an election. The election of a president is a byproduct. Not all elections are held in November, nor are they nationwide.
- 6. b.** Temperature is a degree of hotness or coldness. Heat is not essential to temperature. Clouds may affect ground temperature but are not essential.
- 7. c.** The objects above the line are all tools used by a carpenter. The tools below the line are all used by a gardener.

8. b. The relationship above the line is that snow on a mountain creates conditions for skiing. Below the line the relationship is that warmth at a lake creates conditions for swimming.

9. d. Above the line the relationship shows a progression of sources of light. The relationship below the line shows a progression of types of housing, from smallest to largest. Choice a is incorrect because a tent is smaller than a house. Choice c is wrong because it is not part of the progression.

10. a. The relationship above the line is as follows: aspirin is a medicine; medicine is sold in a pharmacy. Below the line, the relationship is: lettuce is a vegetable; vegetables are bought in a grocery.

11. d. The tadpole is a young frog; frogs are amphibians. The lamb is a young sheep; sheep are mammals. Animal is an incorrect choice because it is too large a grouping: animals include insects, birds, mammal, reptiles, and amphibians.

12. b. Walk, skip, and run represents a continuum of movement: skipping is faster than walking; running is faster than skipping. Below the line, the continuum is about throwing. Pitch is faster than toss; hurl is faster than pitch.

13. c. Since Erin's parents think a dog would not be happy in an apartment, we can reasonably conclude that the family lives in an apartment. We do not know if Erin's parents dislike dogs (choice a), or if Erin dislikes birds (choice b). There is no support for choice d.

14. d. It is reasonable to conclude that Mike likes singing and dancing because he looks forward to doing these things at music camp. There is no information that supports the other three choices.

15. c. Given the information presented, the only statement that could be considered true is that the fruit should not be eaten. There is no support that taxol is poisonous or that taxol has cured anyone. Neither is there support for choice d.

16. a. Because Mr. Sanchez spends many hours during the weekend working in his vegetable garden, it is reasonable to suggest that he enjoys this work. There is no information to suggest that he does not like classical music. Although Mrs. Sanchez likes to cook, there is nothing that indicates she cooks vegetables (choice c). Mrs. Sanchez likes to read, but there is no information regarding the types of books she reads (choice d).

17. b. Since the two inches of snow was an 82-year-old record, choice b is true. Choice a cannot be verified because the temperature may have reached 4 degrees prior to 1896. There is not clear support for choices c and d.

18. c. The third sentence makes this statement true. There is no support for choices a and b. Just because Verna's favorite color is goldenrod does not mean that she would never wear violet (choice d).

19. c. From *dionot* and *blyonot*, you can determine that *onot* means oak. From *blyonot* and *blycrin*, you can determine that *bly* means leaf. Therefore, *crin* means maple. Because in this language the adjective maple comes after the noun, *patricrin* is the only possible choice.

20. b. *Lilo* means green; *bix* means soup; *lerno* means vegetable; *marj* means paint. Therefore, *lilolerno* means green vegetable.

TEST 5: READING COMPREHENSION

- 1. c.** Read each choice and review the passage to determine whether or not the information is included. Choice **c** is correct because the purpose of the neutron spectrometer is detailed in the second paragraph. Choices, **a**, **b**, and **d** are NOT included in the passage.
- 2. a.** This answer is clearly stated in the first paragraph. There is no support for either **b** or **d**. Choice **c** is contradicted in the first paragraph.
- 3. b.** This is a specific-detail item, and the answer is clearly stated in the last sentence of the first paragraph: *a low-cost robot, who would spend a year on the surface of the moon, collecting minerals and ice.*
- 4. a.** Either **a** or **b** are possible definitions of speculation, however, the passage suggests that in this case the author is referring to a theory (choice **a**). The other choices are vaguely similar, but are not accurate, based on the passage as a whole.
- 5. a.** The passage mainly informs readers about the dangers of heat stroke and heat exhaustion. Choice **b** is a poor choice because this passage is directed toward a general audience. Choice **c** can be ruled out because the passage makes no challenge. Choice **d** may be true, but it is not the main purpose of the passage.
- 6. d.** This is stated in the last paragraph (*...first aid measures should be directed at cooling the body quickly*). The other responses are first aid for heat exhaustion victims.
- 7. b.** This is stated in the first sentence of the second paragraph. Choices **a** and **c** are symptoms of heat stroke. Choice **d** is not mentioned.
- 8. a.** Heat stroke victims have a *blocked sweating mechanism*, as stated in the third paragraph.
- 9. b.** This information is given in the second paragraph: If the victim still suffers from the symptoms listed in the first sentence of the paragraph, the victim needs more water and salt to help with the *inadequate intake of water and the loss of fluids* that caused those symptoms.
- 10. c.** This choice best captures the main theme. All " the other choices are mentioned in the passage but are minor points.
- 11. b.** This is implied in the first paragraph.
- 12. a.** We can infer that Rachel is traveling alone simply because no one else is mentioned. Any of the other choices could also be true, but there is nothing in the passage to support them.
- 13. b.** See the first paragraph. The other choices also happen to be true of Carnival, but they are not mentioned in the passage.
- 14. d.** The last line of the passage shows Rachel headed from her hotel room to the street where Carnival is taking place. Thus, a logical continuation is for Rachel to be experiencing the adventure she is *determined to find*.
- 15. b.** See the first paragraph. Choice **a** is contradicted in the first paragraph. Choice **c** is perhaps true but is not in the passage. Choice **d** is incorrect because, although the president's assistant escorted Autherine Lucy to class, the passage does not say that she became friends with the assistant; this may just have been his assigned job.
- 16. b.** The first paragraph says that Autherine Lucy *bravely* took her seat, and the last paragraph refers to her *courage*.
- 17. a.** According to the first paragraph, Autherine Lucy was surprised when the professor apparently did not notice her.
- 18. d.** See the fourth sentence of the second paragraph.
- 19. c.** The other answers are all contrary to information in the passage.

- 20. b.** This paragraph concentrates on denning the RDA. Choices **a**, **c**, and **d** are mentioned, but none is the main focus of the paragraph.
- 21. b.** Choice **b** is indicated by the final sentence, which indicates that the RDA approach is useful, but has limitations, implying that a supplemental guide would be a good thing. Choice **a** is contradicted by the final sentence of the passage. Choice **c** is incorrect because the passage says the RDA approach is a *useful guide*, but does NOT say it is the best guide to good nutrition. Choice **d** is contradicted by the next-to-last sentence of the passage.
- 22. c.** This is a detail item, and the answer is clearly stated in the middle of the second paragraph. There is no support in the passage for the other choices.
- 23. d.** If you read the paragraph, you will see that the sentences that follow this opening sentence list some of the deficiencies of the RDA; this is why *drawbacks* is the only possible choice. Although the other choices fit into the sentence, they do not fit into the context of the paragraph.
- 24. a.** The passage explicitly states that Charlemagne was crowned emperor in 800 and died in 814—a period of 14 years. Therefore, **b**, **c**, and **d** are mathematically incorrect.
- 25. d.** The passage states that *this European civilization drew on the ancient texts of the Germanic, Celtic, Greek, Roman, Hebrew, and Christian worlds*, which supports this choice. Choice **a** is contradicted in the passage. There is no support for **b** or **c**.
- 26. c.** The main focus of this passage is how loud noises can cause hearing loss. Although choices **a** and **b** are mentioned, these are not the main focus of the passage. The passage also mentions the destruction of nerve cells (choice **d**), but the passage discusses only those cells in the inner ear, not nerve cells in general.
- 27. b.** The second paragraph clearly states that the cochlea is *the spiral-shaped cavity of the inner ear*.
- 28. d.** The second paragraph compares the fibers in a shag carpet to the fibers in the inner ear.
- 29. a.** This is the only choice that can reasonably be inferred from the information in the passage; the basis for this inference is the last paragraph. There is no support that the author believes either **b** or **c**. As for **d**, the author suggests turning down the boom box, not giving up listening.
- 30. b.** This is the only choice that is in keeping with the context of the passage. Choices **a** and **d** both mean on occasion, not steadily. Choice **c** can be ruled out because there is no context to support this answer.
- 31. d.** The title *Sights and History on Dublin's O'Connell Street* touches on all the specific subjects of the passage—the sights to see on this particular street and the history connected to them. Choice **a** is too general about the place described, which is a particular street in Dublin, not the whole city. Choices **b** and **c** are too specific in that they cover only the material in the first paragraph.
- 32. c.** The hidden or key resource mentioned in the passage is the fine distinction between the definition of *street* and *boulevard*, which is used to win the argument with or *get the better of* tourists. Choices **a** and **b** do not make sense; choice **d** is incorrect because there is no real fraud used in the argument in the passage.
- 33. b.** This is a detail question. The answer is clearly stated in the second sentence of the second paragraph: *the river Liffey that bisects Dublin*.
- 34. d.** The author offers an example of Dublin wit and mentions the *unhurried* pace of Dublin crowds. Choice **a** interprets the adjective *unhurried* in too

pejorative a manner for the tone of the passage. Choices **b** and **c** similarly interpret the playful joke on French tourists too negatively.

35. b. This choice includes the main points of the passage and is not too broad. Choices **a** and **c** include minor points in the passage. Choice **d** includes points not discussed in the passage.

36. d. This choice expresses the main focus of the paragraph. Choices **a**, **b**, and **c** express opinions, but these opinions are not supported by the details given.

37. a. This choice is correct according to the second sentence in the second paragraph. Choices **b** and **c** are mentioned in the passage but not as causing the islands. There is no support for choice **d**.

38. a. This is a detail in the passage, and arriving at the correct answer requires a careful reading of the first three sentences. The coast of Maine, according to the passage, is ten times longer than 225 miles, which is equal to 2500 miles.

39. c. Note that this question asked you to find the answer that is NOT included in the passage. Choices **a**, **b**, and **d** can all be found in the first two paragraphs. Choice **c** is the best answer because the passage states that after the glacier *the mountain ranges were never to return*.

40. d. This detail is clearly stated in the last two sentences of the passage. The passage makes no connection between wealth and plant and animal life (choice **a**). Choices **b** and **c** are inaccurate, according to the passage.

TEST 6: MATHEMATICS CONCEPTS AND APPLICATIONS

1. d. Saying the numbers out loud helps: Twenty thousand plus seven hundred plus six. Choice **a** reads 276; choice **b** reads 2,706; choice **c** reads 20,076.

2. c. Choice **a** is not divisible by 6; choice **b** is not divisible by 6 or 7; and choice **d** is not divisible by 7. 84 is divisible by both numbers, and: $6 \times 7 \times 2 = 84$.

3. a. The expression $5n$ means 5 times n . The addition sign before the 7 indicates the phrase *more than*.

4. d. The superscript 4 means *to the power of 4*; in other words, take 3 times itself four times: $3^4 = 81$.

5. b. Change the hours to minutes: 1 hour 40 minutes = 100 minutes; 1 hour 50 minutes = 110 minutes. Now add: 100 minutes + 110 minutes = 210 minutes. Now change back to hours and minutes: $210 \text{ minutes} \div 60 = 3.5 \text{ hours}$.

6. b. In an improper fraction the top number is greater than the bottom number.

7. a. Mario has finished $\frac{35}{45}$ of his test, which reduces to $\frac{7}{9}$, so he has $\frac{2}{9}$ of the test to go.

8. c. When *adding* negative numbers, follow this rule: If both numbers have DIFFERENT SIGNS, subtract the smaller number from the larger. The answer has the sign of the larger number. Therefore, the above equation becomes: $12 - (-8) = 20$. Since the larger number, 12, has a positive sign, the answer has a positive sign, so the answer is 20.

9. c. To find the square root of a number, ask yourself, "What number times itself equals the given number?" Four times itself, or 4^2 , is 16; therefore, the square root of 16 is 4.

- 10. c.** 5.96 divided by 4 equals 1.49.
- 11. a.** There are twelve inches in a foot. $2.54 \times 12 = 30.48$.
- 12. c.** This is a mixed decimal. The whole number, 6, is to the left of the decimal point. The hundredths place is the second digit to the right of the decimal point.
- 13. a.** Choice **b** can easily be ruled out because the 0 in the tenths place is less than the 7 in all the other choices. Choices **c** and **d** can be ruled out because the digits in the thousandths place are less than 2.
- 14. a.** This is a multiplication problem involving a percent. Because 30% is equivalent to the decimal 0.3, simply multiply the whole number by the decimal: $0.3 \times 340 = 102$.
- 15. a.** The first step in solving the problem is to subtract 86 from 148. The remainder, 62, is then divided by 2 to get 31 feet.
- 16. a.** Since the solution to the problem $x + 25 = 13$ is -12, choices **b**, **c**, and **d** are all too large to be correct.
- 17. a.** $x(x+3) = x(x)+3x=x^2+3x$.
- 18. b.** Let x = the number sought. The statement "twenty-three added to a number" means $x + 23$; "ninety-nine is the result" is the same as saying = 99. Therefore, we have: $x + 23 = 99$ or $x = 99 - 23$. Thus $x = 76$.
- 19. b.** A cube has 4 sides, a top, and a bottom, which means that it has 6 faces.
- 20. c.** A right angle is exactly 90 degrees.
- 21. c.** This is a multiplication problem with decimals. $2.5 \times 2.000 = 5,000$
- 22. c.** This is a division problem: $304.15 \div 38.5$. Because there is one decimal point in 38.5, move the decimal point one place in both numbers. $3041.5 \div 385 = 7.9$
- 23. d.** $24\% = 24/100$; reduced, this is $6/25$.
- 24. c.** Change the percent to a decimal to get 0.80, then multiply: $400 \times 0.80 = 320$.
- 25. c.** The quotient of two numbers is $x \div y$. When a third number, z , is added, the result is: $x \div y + z$.
- 26. a.** To get the height (h) of the triangle, use the Pythagorean theorem: $6^2 + h^2 = 10^2$. The height equals 8. Then 5 is plugged in for the base and 8 for the height in the area equation $A = bh/2$, which yields 20 square units.
- 27. c.** To subtract fractions, first convert to a common denominator, in this case, $25/40 - 24/40 = 1/40$.
- 28. a.** 100 pounds is four times 25 pounds, so the cost is \$3.59 times 4, or \$14.36.
- 29. d.** The 3rd and 4th quarters are 54% and 16% respectively. This adds to 70%.
- 30. b.** We want to know D = difference in total revenue. Let A = total revenue at \$6 each, and B = total revenue at \$8 each. Therefore: $D = A - B$. We are given $A = 6 \times 400 = 2,400$ and $B = 8 \times 250 = 2,000$. Substituting: $D = 2,400 - 2,000$. Thus $D = 400$ dollars.
- 31. d.** 63 divided by 5 equals 12.6.
- 32. c.** Let x = the number sought. Seven and three both taken away from a number means $x - (7 + 3)$, and we have $x - (7 + 3) = 31$ or $x = 31 + 10$. Thus $x = 41$.
- 33. b.** The circumference of a circle is π diameter. The diameter is 5 inches, giving a circumference of 5π inches.
- 34. d.** Since a percentage is a portion of 100 where $x\% = x/100$, the equation is $x/100 = 750/600$. Cross-multiply: $600x = 750(100)$. Simplify: $x = 75,000/600$ or $x = 125$.
- 35. d.** There are four sides of 4, and two sides of 8. Therefore, the perimeter is $(4 \times 4) + (2 \times 8) = 32$.
- 36. c.** This is a multiplication problem. Change 20% to a decimal and multiply. $13.85 \times 0.2 = 2.77$.
- 37. c.** Add the four numbers together to get 260, then divide by 4 to get 65.

38. c. 10 times 10 times 10 is 1000. 1000 times 7.25 is 7250.

39. c. The sum of the angles on a triangle is 180 degrees. The two angles given add to 90 degrees, showing that there must be a 90-degree angle. It is a right triangle.

40. c. The sum of the side lengths is $7 + 9 + 10 = 26$.

TEST 7: LANGUAGE EXPRESSION

1. a. *However* is only choice that indicates the contrast between Joelle's preference and Chelsea's.

2. d. This is the only choice that gives a logical relationship between the two clauses. Choices **a** and **b** result in an awkward construction. Choice **c** is illogical.

3. b. The relationship between the two clauses shows a difference in time. Choice **b** is the only logical response.

4. d. This relationship indicates a cause and effect. The dog's ears are covered because he is afraid of thunder. This is the only logical choice.

5. b. There are more than two things being compared, so choices **a** and **c** can be ruled out. Choice **d** is an improper form.

6. a. The sentence requires an adjective, so choice **b** (an adverb) can be ruled out. Since the comparison is one value over another, *more terrifying* is the best choice.

7. c. Since the action takes places in the past, the only correct choice is the past perfect, *had broken*.

8. d. The action takes place in the present, so the appropriate tense for this verb is the present tense.

9. b. This sentence requires a plural verb in the present tense. Choice **c** can be ruled out because it is past tense. The other choices do not have grammatical agreement between subject and verb.

10. c. This is a complete sentence with proper parallel structure. Choice **a** does not use parallel structure because the word *return* is in the present tense while the other verbs are in the past tense. Choice **b** is a sentence fragment, not a complete sentence. Choice **d** is ungrammatical and awkwardly constructed.

11. b. This is the only choice that is a complete sentence; the others are fragments.

12. a. This is the only sentence that is clearly written. In choice **b**, the cat seems to be renting the room. In choice **c**, it is unclear whether *he* refers to the cat or to Mr. Morris. Choice **d** implies that Mr. Morris rented himself a room.

13. d. In choice **a**, the lack of agreement in tense makes the sentence unclear as to time. Choice **b** doesn't make it clear who ate the popcorn. Choice **c** implies that the popcorn watched the movie.

14. a. This is the only complete sentence. Choice **b** contains a sentence fragment. Choice **c** is a comma splice; a semicolon should be used instead of a comma. Choice **d** is a sentence fragment.

15. d. This is the only choice that uses proper parallelism; the verbs in both clauses are in the past tense. The other choices all have a shift in tense. The shift in choice **a**, is from future tense to past tense. In choice **b**, it is from past to present. In choice **c**, it is from present to past.

16. c. This is the only choice that uses proper parallelism; the verbs in both clauses are in a past tense. The other choices all have a shift in tense. The shift in choice **b**, for example, is from present to past and back to present.

17. c. This is the only choice that uses proper parallelism; the verbs in both clauses are in a present tense. The other choices all have a shift in tense. The shift in choice **a**, for example, is from past to present.

- 18. a.** This choice uses verbs correctly and does not shift tenses. The action takes place in the past, and both verbs are in a past tense. Choices **b** and **c** both shift tenses. Choice **d** is incorrect because the second clause of the sentence needs a present tense verb; it should read "now we get along fine."
- 19. c.** The other choices all have faulty parallelism. Choices **a** and **d** shift from past to present tense; **b** is not parallel because *have* should be changed to *having*.
- 20. a.** The subject of the sentence is *gunman*; *customers* is the object of the verb ordered.
- 21. c.** The subject of the sentence is *we*; *Betty* is the object of a preposition; *she* is the subject of the dependent clause.
- 22. b.** The subject of the sentence cannot be *movies* because the word is part of an introductory clause; *armed* is a verb, and *villains* is a noun that is used to make a comparison.
- 23. d.** There are two verbs: *is* and *relaxes*. *Relaxes* is the predicate because it represents the action that takes place in the sentence. *Is* cannot be the predicate because it is part of a dependent clause.
- 24. b.** *Forgot* is the simple predicate because it represents the action taken by the subject, which is the first *she*.
- 25. d.** There are two verbs in the sentence: *made* and *has*. The verb *has* is the simple predicate. "*Who made these delicious candied figs*" is a clause that modifies the subject *person*.
- 26. b.** The transitional word *but* correctly establishes a contrast. Choices **a** and **d** change the meaning of the two sentences. Choice **c** implies that Earl is only sneaky when the narrator thinks he is.
- 27. d.** This answer choice best establishes the causal relationship between the two sentences.
- 28. a.** The transitional word *however* correctly establishes the contrast implied by the two original sentences. Choices **b** and **d** do not show this contrast; Choice **c** has a misplaced modifier.
- 29. b.** This is the best choice because it gives the information exactly as it appears in the two statements. Choice **a** reads as though the paintings are holding the festival. Choices **c** and **d** show a contrast between the two statements that does not exist.
- 30. c.** This is the only choice that shows the contrast between the two statements. Choice **a** is incorrect because it reads as though the graduates are guilty of false advertising. Choices **b** and **d** distort the meaning.
- 31. b.** This choice clearly fits with the main focus of the paragraph, which is the skill that is needed to hand-rear orphaned baby birds. Choice **a** is too vague to be a topic sentence. Choices **c** and **d** introduce other topics.
- 32. c.** The main focus of the paragraph is the height of a wave. This is the only choice that introduces that topic.
- 33. a.** The paragraph expresses the writer's opinion about respect for the law. Choices **b** and **d** can be ruled out because they are irrelevant to the main topic. Choice **c** can also be eliminated because it discusses respect for other people, not respect for the law.
- 34. d.** This is the only choice that follows the topic: It gives reasons why the public is fascinated with Marilyn Monroe. The other choices do not follow the topic sentence.
- 35. c.** This is the only choice that logically follows the idea that the Big Bang theory is "much misunderstood." Choices **a** and **d** are too vague. Choice **b** develops a completely different idea.
- 36. a.** This is clearly the only choice that logically follows the statement about juries in colonial times. Choices **b** and **c** can be ruled out because they do

not refer back to colonial times. Choice **d** refers to colonial times but not to juries.

37. b. The passage has to do with the confusion involved in getting on-line. The price of computers is irrelevant to the main topic.

38. c. The main focus of the passage is the use of rock salt and calcium chloride on city streets. Sentence 3 is not relevant because it gives information on another topic.

39. a. This is the best choice because it is the best transition between the two sentences, and it does not stray from the main focus of the paragraph. Choices **b**, **c**, and **d** begin another topic.

40. c. The mention of all the amazing things the brain is capable of is directly relevant to its being *mysterious and complex*.

Scoring

For the real exam, your raw score on the COOP will be converted to a scaled score so that your score can be compared with that of other students. For this practice exam, however, simply determine a percentage for each part. This will enable you to get an idea of how well you did on each section, so that you'll know which tests you need to study for. When you take the second COOP test in this book, you can compare your percentage score on this test with your score on the second test to see how you improved. (Figuring out your percentage score will also be good math practice!)

First, find the number of questions you got right in each test in the COOP. There is no penalty for skipping questions, and wrong answers don't count against your score. Just add up the number of correct answers on each of the tests. Divide the number of questions you got right by the number of questions in that particular test. That's your percentage score. Below are tables that will help you check your math by giving you percentage equivalents for some possible scores on each of the COOP tests. (There is a table for the 20-question tests and a table for the 40-question tests.)

SEQUENCES, ANALOGIES, MEMORY, AND VERBAL REASONING (20 questions each)

Number of questions right	Approximate percentage
20	100%
18	90%
16	80%
15	75%
14	70%
13	65%
11	57%
10	50%

READING, MATHEMATICS, AND LANGUAGE EXPRESSION (40 questions each)

Number of questions right	Approximate percentage
40	100%
36	90%
32	80%
30	75%
28	70%
26	65%
23	57%
20	50%

Did you pass? Each school sets its own standards, so there's really no such thing as a "passing score." The point, for now, isn't your total score, anyway. Instead,

concentrate on how you did on each of the skills tested by the exam. Diagnose your strengths and weaknesses so that you can concentrate more on the weaker areas as you prepare for the exam.

Use your scores in conjunction with the EasySmart test preparation guide in Chapter 3 of this book to help you devise a study plan. Then turn to the instructional chapters, spending more of your time on the areas that correspond to the questions you found hardest and less time on the areas in which you did well. Here's the key that shows you which chapters correspond to which tests:

Test	Chapter
1, Sequences	11, Nonverbal Reasoning
2, Analogies	11, Nonverbal Reasoning
3, Memory	10, Memory
4, Verbal Reasoning	9, Verbal Reasoning
5, Reading Comprehension	6, Reading Comprehension
6, Mathematics Concepts and Applications	12, Math Skills
7, Language Expression	8, Language

Chapter 6— Reading Comprehension

Chapter Summary

Because reading is such a vital skill, the HSPT and the COOP include reading comprehension sections that test your ability to understand what you read. The tips and exercises in this chapter will help you improve your comprehension of written passages, so that you can increase your score in this area.

New, more advanced textbooks; complicated directions for tests and papers; novels, stories and essays—these are all things you'll be reading when you go to high school. Being able to understand written materials is vital to academic success. That's why both the COOP and the HSPT exams attempt to measure how well students understand what they read.

Reading comprehension tests are usually in a multiple-choice format and ask questions based on brief passages. For that matter, almost all standardized test questions test your reading skill. After all, you can't answer the question if you can't read it! Similarly, you can't study your textbooks or learn the subjects you'll encounter in high school if you can't read well. So reading comprehension is vital not only on the test but also for the rest of your school career.

Types of Reading Comprehension Questions

You have probably encountered reading comprehension questions before, where you are given a passage to read and then have to answer multiple-choice questions about it. This kind of question has two advantages for you as a test taker:

1. You don't have to know anything about the topic of the passage because
2. You're being tested only on the information the passage provides.

But the disadvantage is that you have to know where and how to find that information quickly in an unfamiliar text. This makes it easy to fall for one of the wrong answer choices, especially since they're designed to mislead you.

The best way to do well on this passage/question format is to be very familiar with the kinds of questions that are typically asked on the test. Questions most frequently ask you to:

1. identify a specific **fact or detail** in the passage
2. note the **main idea** of the passage
3. make an **inference** based on the passage
4. define a **vocabulary** word from the passage

In order for you to do well on a reading comprehension test, you need to know exactly what each of these questions is asking. **Facts and details** are the specific pieces of information that support the passage's **main idea**. The main idea is the thought, opinion, or attitude that governs the whole passage. Generally speaking, facts and details are indisputable—things that don't need to be proven, like statistics (18 million people) or descriptions (a green overcoat). Let's say, for example, you read in a magazine a sentence that says "*After Coach Susan Richmond signed on, the team's batting average improved by 50%*." A sentence like this, which gives you the fact that the team's average improved by 50%, might support a main idea that says, "Coach Susan Richmond is an excellent coach." Notice, though, that this main idea is something that could be disputed; it is an opinion. The writer believes that Coach Richmond is wonderful, and because this is the writer's *opinion* (and maybe not everyone shares it), he needs to *back it up* with facts and details. For example, the writer might point to previous teams handled by Coach Richmond, which had superb batting averages, or the writer might gather testimonials from members of the current team.

An inference, on the other hand, is a conclusion that can be drawn based on fact or evidence. For example, you can infer—based on the fact that the team's batting average improved by 50% after Coach Richmond took over—that the previous coach was not nearly as good. There may, of course, have been other reasons, but we can infer only one from this sentence.

As you might expect, **vocabulary** questions ask you to determine the meaning of particular words. Often, if you've read carefully, you can determine the meaning of such words from their context—that is, how the word is used in the sentence or paragraph.

Practice Passage 1— **Using the Four Question Types**

The following is a sample test passage, followed by four questions. Read the passage carefully, and then answer the questions, based on your reading of the text, by circling your choice. Then refer to the list above and note under your answer which type of question has been asked. Correct answers appear immediately after the questions.

Community policing has been frequently touted as the best way to reform urban law enforcement. The idea of putting more officers on foot patrol in high crime areas, where relations with police have frequently been strained, was initiated in Houston in 1983 under the leadership of then-Commissioner Lee Brown. He believed that officers should be accessible to the community at the street level. If officers were assigned to the same area over a period of time, those officers would eventually build a network of trust with neighborhood residents. That trust would mean that merchants and residents in the community would let officers know about criminal activities in the area and would support police intervention. Since then, many large cities have experimented with Community Oriented Policing (COP) with mixed results. Some have found that police and citizens are grateful for the opportunity to work together. Others have found that unrealistic expectations by citizens and resistance from officers have combined to hinder the effectiveness of COP. It seems possible, therefore, that a good idea may need improvement before it can truly be considered a reform.

1. Community policing has been used in law enforcement since

- a. the late 1970s
- b. the early 1980s
- c. the Carter administration
- d. Lee Brown was New York City Police Commissioner

Question type _____

2. The phrase "a network of trust" in this passage suggests that

- a. police officers can rely only on each other for support
- b. community members rely on the police to protect them
- c. police and community members rely on each other
- d. community members trust only each other

Question type _____

3. The best title for this passage would be

- a. Community Policing: The Solution to the Drug Problem
- b. Houston Sets the Pace in Community Policing
- c. Communities and Cops: Partners for Peace
- d. Community Policing: An Uncertain Future

Question type _____

4. The word "touted" in the first sentence of the passage most nearly means

- a. praised
- b. denied
- c. exposed
- d. criticized

Question type. _____

Answers and Explanations for Practice Passage 1

Don't just look at the right answers and move on. The explanations are the most important part, so read them carefully. Use these explanations to help you understand how to tackle each kind of question the next time you come across it.

1. b. Question type: 1, fact or detail. The passage identifies 1983 as the first large-scale use of community policing in Houston. Don't be misled by trying to figure out when Carter was president. Also, if you happen to know that Lee Brown was New York City's police commissioner, don't let that information lead you away from the information contained in the passage alone. Brown was commissioner in Houston when he initiated community policing.

2. c. Question type: 3, inference. The "network of trust" referred to in this passage is between the community and the police, as you can see from the sentence where the phrase appears. The key phrase in the question is *in this passage*. You may think that police can rely only on each other, or one of the other answer choices may appear equally plausible to you. But your choice of answers must be limited to the one suggested *in this passage*. Another tip for questions like this: Beware of absolutes! Be suspicious of any answer containing words like *only*, *always*, or *never*.

3. d. Question type: 2, main idea. The title always expresses the main idea. In this passage, the main idea comes at the end. The sum of all the details in the passage suggests that community policing is not without its critics and that therefore its future is uncertain. Another key phrase is *mixed results*, which means that some communities haven't had full success with community policing.

4. a. Question type: 4, vocabulary. The word *touted* is linked in this passage with the phrase *the best way to reform*. Most people would think that a good way to reform something is praiseworthy. In addition, the next few sentences in the passage describe the benefits of community policing. Criticism or a negative response to the subject doesn't come until later in the passage.

Detail and Main Idea Questions

Main idea questions and fact or detail questions are both asking you for information that's right there in the passage. All you have to do is find it.

Detail or Fact Questions

In detail or fact questions, you have to identify a specific item of information from the test. This is usually the simplest kind of question. You just have to be able to separate important information from less important information. However, the choices may often be very similar, so you must be careful not to get confused.

Be sure you read the passage and questions carefully. In fact, it is usually a good idea to read the questions first, *before* you even read the passage, so you'll know what details to look out for.

Main Idea Questions

The main idea of a passage, like that of a paragraph or a book, is what it is *mostly* about. The main idea is like an umbrella that covers all of the ideas and details in the passage, so it is usually something general, not specific. For example, in Practice Passage 1, question 3 asked you what title would be best for the passage, and the correct answer was "Community Policing: An Uncer-

tain Future." This is the best answer because it's the only one that includes both the positive and negative sides of community policing, both of which are discussed in the passage.

Sometimes the main idea is stated clearly, often in the first or last sentence of the passage—the main idea is expressed in the *last* sentence of Practice Passage 1, for example. The sentence that expresses the main idea is often referred to as the **topic sentence**.

At other times, the main idea is not stated in a topic sentence but is *implied* in the overall passage, and you'll need to determine the main idea by inference. Because there may be much information in the passage, the trick is to understand what all that information adds up to—the gist of what the author wants you to know. Often some of the wrong answers on main idea questions are specific facts or details from the passage. A good way to test yourself is to ask, "Can this answer serve as a *net* to hold the whole passage together?" If not, chances are you've chosen a fact or detail, not a main idea.

Practice Passage 2—

Detail and Main Idea Questions

Practice answering main idea and detail questions by working on the questions that follow this passage. Circle the answers to the questions, and then check your answers against the key that appears immediately after the questions.

There are three different kinds of burns: first degree, second degree, and third degree. It is important for firefighters to be able to recognize each of these types of burns so that they can be sure burn victims are given proper medical treatment. The least serious burn is the first-degree burn, which causes the skin to turn red but does not cause blistering. A mild sunburn is a good example of a first-degree burn, and, like a mild sunburn, first-degree burns generally do not require medical treatment other than a gentle cooling of the burned skin with ice or cold tap water. Second-degree burns, on the other hand, do cause blistering of the skin and should be treated immediately. These burns should be immersed in warm water and then wrapped in a sterile dressing or bandage. (Do not apply butter or grease to these burns; despite the old wives' tale, butter does *not* help burns heal and actually increases chances of infection.) If second-degree burns cover a large part of the body, then the victim should be taken to the hospital immediately for medical care. Third-degree burns are those that char the skin and turn it black, or burn so deeply that the skin shows white. These burns usually result from direct contact with flames and have a great chance of becoming infected. All third-degree burns should receive immediate hospital care. They should not be immersed in water, and charred clothing should not be removed from the victim. If possible, a sterile dressing or bandage should be applied to burns before the victim is transported to the hospital.

1. Which of the following would be the best title for this passage?

- a. Dealing with Third-Degree Burns
- b. How to Recognize and Treat Different Burns
- c. Burn Categories
- d. Preventing Infection in Burns

2. Second-degree burns should be treated with

- a. butter
- b. nothing
- c. cold water
- d. warm water

3. First-degree burns turn the skin

- a. red
- b. blue
- c. black
- d. white

4. Which of the following best expresses the main idea of the passage?

- a. There are three different types of burns.
- b. Firefighters should always have cold compresses on hand.
- c. Different burns require different types of treatment
- d. Butter is not good for healing burns.

Answers and Explanations for Practice Passage 2

1. b. A question that asks you to choose a title for a passage is a main idea question. This main idea is expressed in the second sentence, the topic sentence: "It is important for firefighters to be able to recognize each of these types of burns so that they can be sure burn victims are given proper treatment" Answer **b** expresses this idea and is the only title that sums up all of the ideas expressed in the passage. Answer **a** is too limited; it deals only with one of the kinds of burns discussed in the passage. Likewise, answers **c** and **d** are too limited. Answer **c** covers types of burns but not their treatment, and **d** deals only with preventing infection, which is only a secondary part of the discussion of treatment.

2. d. The answer to this fact question is clearly expressed in the sentence, "These burns should be immersed in warm water and then wrapped in a sterile dressing or bandage." The hard part is keeping track of whether "These burns" refers to the kind of burns in the question, which is second-degree burns. It's easy to choose a wrong answer here because all of the answer choices are mentioned in the passage. You need to read carefully to be sure you match the right burn to the right treatment.

3. a. This is another fact or detail question. The passage says that a first-degree burn "causes the skin to turn red." Again, it's important to read carefully because all of the answer choices (except **b**, which can be eliminated immediately) are listed elsewhere in the passage.

4. c. Clearly this is a main idea question, and **c** is the only answer that encompasses the whole passage. Answers **b** and **d** are limited to *particular* burns or treatments, and answer **a** discusses only burns and not their treatment. In addition, the second sentence tells us that "It is important for firefighters to be able to *recognize each of these types of burns so that they can be sure burn victims are given proper medical treatment*."

Inference and Vocabulary Questions

Questions that ask you about the meaning of vocabulary words in the passage and those that ask what the passage *suggests* or *implies* (inference questions) are different from detail or main idea questions. In vocabulary and inference questions, you usually have to pull ideas from the passage, sometimes from more than one place in the passage.

Inference Questions

Inference questions can be the most difficult to answer because they require you to draw meaning from the text when that meaning is implied rather than directly stated. Inferences are conclusions that we draw based

on the clues the writer has given us. When you draw inferences, you have to be something of a detective, looking for such clues as word choice, tone, and specific details that suggest a certain conclusion, attitude, or point of view. You have to read between the lines in order to make a judgment about what an author was implying in the passage.

A good way to test whether you've drawn a good inference is to ask, "What evidence do I have for this inference?" If you can't find any, you probably have the wrong answer. You need to be sure that your inference is logical and that it is based on something that is suggested or implied in the passage itself—not on what you or others might think. Like a good detective, you need to base your conclusions on evidence—facts, details, and other information—not on random hunches or guesses.

Vocabulary Questions

Questions designed to test vocabulary are really trying to measure how well you can figure out the meaning of an unfamiliar word from its context. *Context* refers to the words and ideas surrounding a vocabulary word. If the context is clear enough, you should be able to substitute a nonsense word for the one being sought and still make the right choice because you could determine meaning strictly from the sense of the sentence. For example, you should be able to determine the meaning of the italicized nonsense word below based on its context:

The principal noted that it gave her great *terivinix* to announce that Kevin was the winner of the nationwide spelling bee.

In this sentence, *terivinix* most likely means

- a. pain
- b. sympathy
- c. pleasure
- d. anxiety

Clearly, the context of winning a nationwide contest makes c, *pleasure*, the best choice. Winning contests doesn't usually bring pain, sympathy, or anxiety.

When confronted with an unfamiliar word, try substituting a nonsense word and see if the context gives you the clue. If you're familiar with prefixes, suffixes, and word roots, you can also use this knowledge to help you figure out the meaning of an unfamiliar word.

You should be careful not to guess at the answer to vocabulary questions based on how you may have seen the word used before or what you *think* it means. Many words have more than one possible meaning, depending on the context in which they're used, and a word you've seen used one way may mean something else in a test passage. Also, if you don't look at the context carefully, you may make the mistake of confusing the vocabulary word with a similar word. For example, the vocabulary word may be *taut* (meaning *right*), but if you read too quickly or don't check the context, you might think the word is *taunt* (meaning *tease*). Always make sure you read carefully and that what you think the word means fits into the context of the passage you're being tested on.

Practice Passage 3—
Inference and Vocabulary Questions

The questions that follow this passage are strictly vocabulary and inference questions. Circle the answers to the questions, and then check your answers against the key that appears immediately after the questions.

Dealing with irritable patients is a great challenge for health-care workers on every level. It is critical that you do not lose your patience when confronted by such a patient. When handling *irate* patients, be sure to remember that they are not angry at you; they are simply projecting their anger at something else *onto* you. Remember that if you respond to these patients as irritably as they act with you, you will only increase their hostility, making it much more difficult to give them proper treatment. The best thing to do is to remain calm and ignore any imprecations patients may hurl your way. Such patients may be irrational and may not realize what they're saying. Often these patients will purposely try to anger you just to get some reaction out of you. If you react to this behavior with anger, they win by getting your attention, but you both lose because the patient is less likely to get proper care.

1. The word "irate" as it is used in the passage most nearly means

- a. irregular, odd
- b. happy, cheerful
- c. ill-tempered, angry
- d. sloppy, lazy

2. The passage suggests that health-care workers

- a. easily lose control of their emotions
- b. are better off not talking to their patients
- c. must be careful in dealing with irate patients because the patients may sue the hospital
- d. may provide inadequate treatment if they become angry at patients

3. An "imprecation" is most likely

- a. an object
- b. a curse
- c. a joke
- d. a medication

4. Which of the following best expresses the writer's views about irate patients?

- a. Some irate patients just want attention.
- b. Irate patients are always miserable.
- c. Irate patients should be made to wait for treatment.
- d. Managing irate patients is the key to a successful career.

Answers and Explanations for Practice Passage 3

1. c. This is a vocabulary question. *Irate* means *illtempered, angry*. It should be clear that b, *happy, cheerful*, is not the answer; dealing with happy patients is normally not "a great challenge." Patients that are a, *irregular, odd*, or d, *sloppy, lazy*, may be a challenge in their own way, but they aren't likely to rouse a health-care worker to anger. In addition, the passage explains that irate patients are not "angry at you," and *irate* is used as a synonym for *irritable*, which describes the patients under discussion in the very first sentence.

2. d. This is an inference question, as the phrase "the passage *suggests*" might have told you. The idea that angry health-care workers might give inadequate treatment is implied by the passage as a whole,

which seems to be an attempt to prevent angry reactions to irate patients. Furthermore, the last sentence in particular makes this inference possible: "If you react to this behavior with anger . . . you both lose because the patient is less likely to get proper care." Answer **c** is not correct, because while it may be true that some irate patients have sued the hospital in the past, there is no mention of suits anywhere in this passage. Likewise, answer **b** is incorrect; the passage does suggest ignoring patients' insults, but nowhere does it recommend not talking to patients—it simply recommends not talking angrily. And while it may be true that some health-care workers may lose control of their emotions, the passage does not provide any facts or details to support answer **a**, that they "*easily* lose control." Watch out for key words like *easily* that may distort the intent of the passage.

3. b. If you didn't know what an imprecation is, the context should reveal that it's something you can ignore, so neither **a**, an *object*, nor **d**, a *medication*, is a likely answer. Furthermore, **c** is not likely either, since an irate patient is not likely to be making jokes.

4. a. The writer seems to believe that some irate patients just want attention, as is suggested when the writer says, "Often these patients will purposely try to anger you just to get some reaction out of you. If you react to this behavior with anger, they win by *getting your attention*" It should be dear that **b** cannot be the answer, because it includes an absolute: "Irate patients are *always* miserable." Perhaps *some* of the patients are *often* miserable, but an absolute like *always* is almost always wrong. Besides, this passage refers to patients who maybe irate in the hospital, but we have no indication of what these patients are like at other times, and *miserable* and *irate* are not exactly the same thing, either. Answer **c** is also incorrect because the purpose of the passage is to ensure that patients receive "proper treatment" and that irate patients are not discriminated against because of their behavior. Thus, "irate patients should be made to wait for treatment" is not a logical answer. Finally, **d** cannot be correct because though it may be true, there is no discussion of career advancement in the passage.

Review:

Putting It All Together

A good way to solidify what you've learned about reading comprehension questions is for *you* to write the questions. Here's a passage, followed by space for you to write your own questions. Write one question of each of the four types: fact or detail, main idea, inference, and vocabulary.

The "broken window" theory was originally developed to explain how minor acts of vandalism or disrespect can quickly escalate to crimes and attitudes that break down the entire social fabric of an area. It is a theory that can easily be applied to any situation in society. The theory contends that if a broken window in an abandoned building is not replaced quickly, soon all the windows will be broken. In other words, a small violation, if condoned, leads others to commit similar or greater violations. Thus, after all the windows have been broken, the building is likely to be looted and perhaps even burned down. According to this theory, violations increase exponentially. Thus, if disrespect to a superior is tolerated, others will be tempted to be disrespectful as well. A management crisis could erupt literally overnight. For example, if one firefighter begins to disregard proper housewatch procedure by neglecting to keep

If English Isn't Your first Language

If you grew up speaking a language other than English, you may be at a disadvantage when taking a standardized test in English. You have not had certain culture-based experiences that your fellow students may have had. You may not know slang words or idioms that mean something other than they say—term like "That blows me away," for instance. Here are tips that can help.

- Read as much as possible. Magazines, newspapers, even comic books and the directions on appliances or packages of frozen foods, will help you increase your vocabulary.
- When you read, watch TV, or go to the movies, be alert for new words that creep into the language from the popular media, or words that have changed meaning. *Awesome*, for example, used to refer only to something grand, such as a wonderful sunset or a cathedral—now the word can be used to describe running shoes.
- If you have access to a computer, take advantage of the Internet, which is full of interesting and even humorous reading material.
- Look up new words in a standard dictionary, or try browsing through a slang dictionary. The latter will help you increase your vocabulary and is actually fun.
- Hold as many conversations as you can with native English-speakers, and don't be afraid to ask the meaning of a word you don't understand. This can be hard, but it really is one of the best ways to learn, and there is no shame in not understanding every word. Remember that most English-speaking people would be just as lost if they suddenly had to speak or understand your native language.

up the housewatch administrative journal, and this firefighter is not reprimanded, others will follow suit by committing similar violations of procedure, thinking, "If he can get away with it, why can't I?" So what starts out as a small thing, a violation that may seem not to warrant disciplinary action, may actually ruin the efficiency of the entire firehouse, putting the people the firehouse serves at risk.

1. Detail question: _____

- a.
- b.
- c.
- d.

2. Main idea question: _____

- a.
- b.
- c.
- d.

3. Inference question: _____

- a.
- b.
- c.
- d.

4. Vocabulary question: _____

- a.
- b.
- c.
- d.

Possible Questions

Here is one question of each type based on the passage above. Your questions may be very different, but these will give you an idea of the kinds of questions that could be asked.

1. Detail question: According to the passage, which of the following could happen "overnight"?

- a. The building will be burned down.
- b. The firehouse may become unmanageable.
- c. A management crisis might erupt.
- d. The windows will all be broken.

2. Main idea question: Which of the following best expresses the main idea of the passage?

- a. Even minor infractions warrant disciplinary action.
- b. Broken windows must be repaired immediately.
- c. People shouldn't be disrespectful to their superiors.
- d. Housewatch must be taken seriously.

3. Inference question: The passage suggests that

- a. the broken window theory is inadequate
- b. managers need to know how to handle a crisis
- c. firefighters are lazy
- d. people will get away with as much as they can

4. Vocabulary question: In this passage, *condoned* most nearly means

- a. punished
- b. overlooked
- c. condemned
- d. applauded

Answers

1. c.

2. a.

3. d.

4. b.

Chapter 7— Vocabulary

Chapter Summary

Vocabulary is tested on the HSPT in the form of synonyms and antonyms (in the Verbal Skills section) and context questions (in the Reading section). This chapter provides tips and exercises to help you improve your score in both areas.

A person's vocabulary is seen as a measure of an ability to express ideas clearly and precisely. For almost any high school course, you must have a good vocabulary so you can understand assignments and subject matter. That's why the HSPT includes vocabulary questions.

Kinds of Vocabulary Questions

There are two basic kinds of vocabulary questions on the HSPT.

- Synonyms and antonyms: Identifying words that mean the same or the opposite of given words
- Context: Determining the meaning of a word or phrase by noting how it is used in a phrase, sentence, or paragraph

Synonym and Antonym Questions

A word is a *synonym* of another word if it has the same or nearly the same meaning as the other word. *Antonyms* are words with opposite meanings. Test questions often ask you to find the synonym or antonym of a word. If you're lucky, the word will be given in a sentence that helps you guess what the word means. If you're less lucky, you'll just get the word, and then you'll have to figure out what the word means without any help.

Questions that ask for synonyms and antonyms can be tricky because they require you to recognize words that may be unfamiliar—not only the words in the questions but also the answer choices. Usually the best strategy is to *look* at the structure of the word and to listen for its sound. See if a part of a word looks familiar. Think of other words you know that have similar key elements. How could those words be related?

Synonym Practice

Try your hand at identifying the word parts and related words in these sample synonym questions. Circle the word that means the same or about the same as the underlined word. Answers and explanations appear right after the questions.

1. a set of partial prints

- a. identifiable
- b. incomplete
- c. visible
- d. enhanced

2. substantial evidence

- a. inconclusive
- b. weighty
- c. proven
- d. alleged

3. corroborated the statement

- a. confirmed
- b. negated
- c. denied
- d. challenged

4. ambiguous questions

- a. meaningless
- b. difficult
- c. simple
- d. vague

Answers to Synonym Questions

The explanations are just as important as the answers, because they show you how to go about choosing a synonym if you don't know the word.

1. b. *Partial* means *incomplete*. The key part of the word here is *part*. A partial print is only part of the whole.

2. b. *Substantial* evidence is *weighty*. The key part of the word here is *substance*. Substance has weight.

3. a. *Corroboration* is *confirmation*. The key part of the word here is the prefix *co-*, which means *with* or *together*. Corroboration means that one statement fits with another.

4. d. *Ambiguous* questions are *vague* or uncertain. The key part of this word is *ambi-*, which means *two* or *both*. An ambiguous question can be taken two ways.

Antonym Practice

The main danger in answering questions with antonyms is forgetting that you are looking for *opposites* rather than synonyms. Most questions will include one or more synonyms as answer choices. The trick is to keep your mind on the fact that you are looking for the opposite of the word. If you're allowed to mark in the books

or on the test papers, circle the word *antonym* or *opposite* in the directions to help you remember.

Otherwise, the same tactics that work for synonym questions work for antonyms as well: try to determine the meaning of part of the word or to remember a context where you've seen the word before.

Circle the word that means the *opposite* of the underlined word in the sentences below. Answers are immediately after the questions.

5. zealous pursuit

- a. envious
- b. eager
- c. idle
- d. comical

6. inadvertently left

- a. mistakenly
- b. purposely
- c. cautiously
- d. carefully

7. exorbitant prices

- a. expensive
- b. unexpected
- c. reasonable
- d. outrageous

8. compatible workers

- a. comfortable
- b. competitive
- c. harmonious
- d. experienced

9. belligerent attitude

- a. hostile
- b. reasonable
- c. instinctive
- d. ungracious

Answers to Antonym Questions

Be sure to read the explanations as well as the right answers.

5. c. *Zealous* means *eager*, so *idle* is most nearly opposite. Maybe you've heard the word *zeal* before. One trick in this question is not to be misled by the similar sounds of *zealous* and *jealous*. The other is not to choose the synonym, *eager*.

6. b. *Inadvertently* means by *mistake*, so *purposely* is the antonym. The key element in this word is the prefix *in-*, which usually means *not, the opposite of*. As usual, one of the answer choices (a) is a synonym.

7. c. The key element here is *ex-*, which means *out of* or *away from*. *Exorbitant* literally means "out of orbit." The opposite of an *exorbitant* or *outrageous* price would be a *reasonable* one.

8. b. The opposite of *compatible* is *competitive*. Here you have to distinguish among three words that contain the same prefix, *com-*, and to let the process of elimination work for you. The other choices are too much like synonyms.

9. b. The key element in this word is the root *belli-*, which means *warlike*. The synonym choices, then, are *hostile* and *ungracious*; the antonym is *reasonable*.

Context Questions

Context is the surrounding text in which a word is used. Most people use context to help them determine the meaning of an unknown word. A vocabulary question that gives you a sentence around the vocabulary word is usually easier to answer than one with little or no context. The surrounding text can help you as you look for synonyms for the specified words in the sentences.

The best way to take meaning from context is to look for key words in sentences or paragraphs that convey the meaning of the text. If nothing else, the context will give you a means to eliminate wrong answer choices that dearly don't fit. The process of elimination will often leave you with the correct answer.

Context Practice

Try these sample questions. Circle the word that best describes the meaning of the underlined word in the sentence. Answers are immediately after the questions.

10. The clerks in the store were appalled by the wild and uncontrolled behavior of the angry customer.

- a. horrified
- b. amused
- c. surprised
- d. dismayed

11. Despite the fact that he appeared to have financial resources, the client claimed to be destitute.

- a. wealthy
- b. ambitious
- c. solvent
- d. impoverished

12. Though she was distraught over the disappearance of her child, the woman was calm enough to give the officer her description.

- a. punished
- b. distracted
- c. composed
- d. anguished

13. The unrepentant embezzler expressed no remorse for his actions.

- a. sympathy
- b. regret
- c. reward
- d. complacency

Some tests may ask you to fill in the blank by choosing a word that fits the context. In the following questions, circle the word that best completes the sentence.

14. Professor Washington was a very _____ man known for his reputation as a scholar.

- a. stubborn
- b. erudite
- c. illiterate
- d. disciplined

15. His _____ was demonstrated by his willingness to donate large amounts of money to worthy causes.

- a. honesty
- b. loyalty
- c. selfishness
- d. altruism

Answers to Context Questions

Check to see whether you were able to pick out the key words that help you define the target word, as well as whether you got the right answer.

10. a. The key words *wild* and *uncontrolled* signify *horror* rather than the milder emotions described by the other choices.

11. d. The key words here are *financial resources*, but this is a clue by contrast. The introductory *Despite*

the fact signals that you should look for the opposite of the idea of having financial resources.

12. d. The key words here are *though* and *disappearance of her child*, signalling that you are looking for an opposite of *calm* in describing how the mother spoke to the officer. The only word strong enough to match the situation is *anguish*.

13. b. *Remorse* means *regret* for one's action. The part of the word here to beware of is the prefix *re-*. It doesn't signify anything in this word, though it often means *again* or *back*. Don't be confused by the two choices which also contain the prefix *re-*. The strategy here is to see which word sounds better in the sentence. The keywords are *unrepentant* and *no*, indicating that you're looking for something that shows no repentance.

14. b. The key words here are *professor* and *scholarly*. Even if you don't know the word *erudite*, the other choices don't fit the description of the professor.

15. d. The key words here are *large amounts of money to worthy causes*. They give you a definition of the word you're looking for. Again, even if you don't know the word *altruism*, the other choices seem inappropriate to describe someone so generous.

For Non-Native Speakers of English

Be very careful not to be confused by the *sound* of words that may mislead you. Be sure you look at the word carefully, and pay attention to the structure and appearance of the words as well as its sound. You may be used to hearing English words spoken with an accent. The sounds of those words may be misleading in choosing a correct answer.

Some Tips about Word Parts

Some tests may ask you to find the meaning of a part of a word: roots, which are the main part of the word; prefixes, which go before the root word; or suffixes, which go after. Any of these elements can carry meaning or change the use of a word in a sentence. For instance, the suffix *-s* or *-es* can change the meaning of a noun from singular to plural: *boy, boys*. The prefix *un-* can change the meaning of a root word to its opposite: *necessary, unnecessary*. Even if your test doesn't include word parts—and the HSPT does not—knowing about them will help you answer other kinds of vocabulary questions.

To identify most parts of words, the best strategy is to think of words you already know that carry the same root, suffix, or prefix. Let what you know about those words help you to see the meaning in words that are less familiar.

Word Part Practice

Circle the word or phrase below that best describes the meaning of the underlined portion of the word. Answers appear after the questions.

16. proactive

- a. after
- b. forward
- c. toward
- d. behind

17. recession

- a. against
- b. see
- c. under
- d. back

18. contemporary

- a. with
- b. over
- c. apart
- d. time

19. etymology

- a. state of
- b. prior to
- c. study of
- d. quality of

20. vandalize

- a. to make happen
- b. to stop; to fill
- d. to continue

Answers to Word Part Questions

Even if the word in the question was unfamiliar, you might have been able to guess the meaning of the prefix or suffix by thinking of some other word that has the same prefix or suffix.

16. b. Think of *propeller*: a propeller sends an airplane *forward*.

17. d. Think of *recall*: manufacturers *recall* or *bring back* cars that are defective; people *recall* or *bring back* past events in memory.

18. a. Think of *congregation*: a group of people gather *with* each other in a house of worship.

19. c. Think of *biology*: the *study* of life.

20. a. Think of *scandalize*: to *make* something shocking *happen*.

Words That Are Easily Confused

Vocabulary tests of any kind often contain words that are easily confused with each other. A smart test taker will be aware of these easily mixed up words or phrases:

accept: to receive willingly

except: exclude or leave out

complement: to complete

compliment: to say something flattering

council: a group that makes decisions

counsel: to give advice

contemptuous: having an attitude of contempt

contemptible: worthy of contempt

continuous: without interruption

continual: from time to time

emigrate: to move from

immigrate: to move to

ingenious: something clever

ingenuous: guileless or naive

oral: pertaining to the mouth

verbal: pertaining to language

persecute: to oppress someone

prosecute: to bring a legal action against someone

How to Answer Vocabulary Questions

- The key to answering vocabulary questions is to **notice and connect** what you do know to what you may not recognize.
- **Know your word parts.** You can recognize or make a good guess at the meaning in a root word, prefix, or suffix.
- **Note directions very carefully.** Remember when you are looking for opposites rather than synonyms.
- **Use a process of elimination.** Think of how the word makes sense in the sentence.
- **Don't be confused by words that sound like other words,** but may have no relation to the word you need.

A List of Word Parts

On the next page are some of the word elements seen most often in vocabulary tests. Simply reading them and their examples five to ten minutes a day will give you the quick recognition you need to make a good association with the meaning of an unfamiliar word.

More Practice in Vocabulary

Here is a second set of practice exercises with samples of vocabulary questions covered in this chapter. Answers to all questions are at the end of the chapter.

Circle the word that means the same or nearly the same as the underlined word.

21. convivial company

- lively
- dull
- tiresome
- dreary

22. conspicuous behavior

- secret
- outrageous
- visible
- boorish

23. meticulous record-keeping

- dishonest
- casual
- painstaking
- careless

24. superficial wounds

- life-threatening
- bloody
- severe
- shallow

25. impulsive actions

- cautious
- imprudent
- courageous
- cowardly

word element	meaning	example
ama	love	amateur
ambi	both	ambivalent, ambidextrous
aud	hear	audition
belli	war	belligerent, bellicose
bene	good	benefactor
cid/cis	cut	homicide, scissor
cogn/gno	know	knowledge, recognize
curr	run	current
flu/flux	flow	fluid, fluctuate
gress	to go	congress, congregation
in	not, in	ingenious
ject	throw	inject, reject
luc/lux	light	lucid, translucent
neo	new	neophyte
omni	all	omnivorous
pel/puls	push	impulse, propeller
pro	forward	project
pseudo	false	pseudonym
rog	ask	interrogate
sub	under	subjugate
spec/spic	look, see	spectator
super	over	superfluous
temp	time	contemporary, temporal
un	not, opposite	uncoordinated
viv	live	vivid

Circle the word that is most nearly opposite in meaning to the underlined word.

26. amateur athlete

- a. professional
- b. successful
- c. unrivaled
- d. former

27. lucid opinions

- a. clear
- b. strong
- c. hazy
- d. heartfelt

28. traveling incognito

- a. unrecognized
- b. alone
- c. by night
- d. publicly

29. incisive reporting

- a. mild
- b. sharp
- c. dangerous
- d. insightful

30. tactful comments

- a. rude
- b. pleasant
- c. complimentary
- d. sociable

Using the context, choose the word that means the same or nearly the same as the underlined word.

31. Though he had little time, the student took copious notes in preparation for the test.

- a. limited
- b. plentiful
- c. illegible
- d. careless

32. Though flexible about homework, the teacher was adamant that papers be in on time.

- a. liberal
- b. casual
- c. strict
- d. pliable

33. The condition of the room after the party was deplorable.

- a. regrettable
- b. pristine
- c. festive
- d. tidy

Choose the word that best completes the following sentences.

34. Her position as a(n) _____ teacher took her all over the city.

- a. primary
- b. secondary
- c. itinerant
- d. permanent

35. Despite her promise to stay in touch, she remained _____ and difficult to locate.

- a. steadfast
- b. stubborn
- c. dishonest
- d. elusive

Choose the word or phrase closest in meaning to the underlined part of the word.

36. universe.

- a. one
- b. three
- c. under
- d. opposite

37. reentry

- a. back
- b. push
- c. against
- d. forward

38. benefit

- a. bad
- b. suitable
- c. beauty
- d. good

39. education

- a. something like
- b. state of
- c. to increase
- d. unlike

40. urbanite

- a. resident of
- b. relating to
- c. that which is
- d. possessing

Additional Resources

If you need more help with your vocabulary skills, here are some books you might consult:

- *504 Absolutely Essential Words* by Murray Bromberg et al. (Barron's)
- *Checklists for Vocabulary Study* by Richard Yorkey (Longman)
- *Vocabulary and Spelling Success in 20 Minutes a Day* by Judith Meyers (LearningExpress, order information at the back of this book)
- *Word Watcher's Handbook* by Phyllis Martin (St. Martin's)
- *Word Smart Revised* by Adam Robinson (The Princeton Review)

Answer to Practice Questions

- | | | |
|---------------|---------------|---------------|
| 21. a. | 28. d. | 35. d. |
| 22. c. | 29. a. | 36. a. |
| 23. c. | 30. a. | 37. a. |
| 24. d. | 31. b. | 38. d. |
| 25. b. | 32. c. | 39. b. |
| 26. a. | 33. a. | 40. a. |
| 27. c. | 34. c. | |

Chapter 8— Language Skills

Chapter Summary

This chapter reviews skills that are tested on the HSPT and COOP, including capitalization and punctuation, subject-verb agreement, and verb tenses. It also offers suggestions on choosing the sentence that is most clearly written, identifying topic sentences, and recognizing effective paragraph development.

Knowing how to use written language is vital, not just to doing well on an exam but to achieving success during your whole high school career. Almost every high school class involves some writing; therefore, both the COOP and the HSPT include questions that test your grammar and your ability to tell a well written sentence or paragraph from a poorly written one.

In this chapter, you'll see examples of the kinds of language questions you'll see on both the COOP and HSPT. After that is a review of the language skills you'll need to succeed. Later, this chapter also covers HSPT Language Skills questions that deal with Punctuation and Capitalization, Spelling, and Composition.

What COOP Language Expression Questions Are Like

The Language Expression portion of the COOP measures your knowledge of English usage and grammar. There are nine different question types. An example of each type is shown below. The answers follow all nine questions.

Sample Questions

Choose the word that best completes the sentence.

1. _____ the month of July was unusually hot, we went to the community swimming pool every day.

- a. Although
- b. Because
- c. Until
- d. While

Choose the sentence that is complete and correctly written.

2. a. The mechanic repaired Winona's car and it purred like a kitten which she told everyone.
 b. After the mechanic repaired it, Winona telling everyone that her car purred like a kitten.
 c. Her car purred like a kitten, Winona told everyone. After the mechanic repaired it.
 d. After the mechanic repaired Winona's car, she told everyone that it purred like a kitten.

Choose the sentence that uses verbs correctly.

3. a. The sun was shining and there isn't a cloud in the sky.
 b. I drink too many grape sodas and felt sick.
 c. The man in front of me was wearing a hat, so I couldn't enjoy the movie.
 d. By the time we got to the state fair, all the blue ribbons have been awarded.

Choose the underlined word that is the simple subject of the sentence.

4. Hearing the thunder, the lifeguard ordered us
 a. b. c.
 out of the water.
 d.

Choose the underlined word or group of words that is the simple predicate (verb) of the sentence

5. We spent Sunday afternoon reading and
 a. b.
playing computer games.
 c. d.

Choose the sentence that best combines the two underlined sentences into one.

6. I was angry about the increase in property taxes.

I wrote a letter to the mayor.

- a. I wrote a letter, angry about the increase in property taxes, to the mayor.
- b. Angry about the increase in property taxes, I wrote a letter to the mayor.
- c. Angered, my letter to the mayor was about the increase in property taxes.
- d. Writing a letter to the mayor, the increase in property taxes made me angry.

Choose the topic sentence that best fits the paragraph.

7. _____ . Although these mechanical alarms are fairly recent, the idea of a security system is not new. The oldest alarm system was probably a few strategically placed dogs that discouraged intruders with a loud warning cry.

- a. Anyone who lives in a large, modern city has heard the familiar sound of electronic security alarms.
- b. Everyone knows that a large, barking dog will scare away strangers, even the mail carrier.
- c. Why spend money on an alarm system when you can get the same service from an animal?
- d. Without a good alarm system, your place of business could be vandalized.

Choose the pair of sentences that best develops the topic sentence.

8. Japanese green tea is considered a gourmet treat by many tea drinkers, but it is much more than that.

- a. Tea lovers think green tea is smoothtasting. They also find it to be more palatable than other teas.
- b. But green tea is not often a first choice at tea and coffee houses. A taste for green tea must be acquired.
- c. Studies show that this relaxing drink may have disease-fighting properties. Green tea inhibits some viruses and may protect people from heart disease.
- d. The Japanese have been consuming this drink for centuries. For those who do not like the taste, green tea can now be purchased in capsule form.

Choose the sentence that does not belong in the paragraph.

9. 1) Ratatouille is a dish that has grown in popularity over the last few years. 2) It features eggplant, zucchini, tomato, peppers, and garlic, chopped, mixed together and cooked slowly over low heat. 3) Zucchini is a summer squash and has a smooth, dark green skin. 4) As the vegetables cook slowly, they make their own broth, which may be extended with a little tomato paste.

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence 4

Answers

1. **b.** The word *because* is the only choice that logically connects the two clauses.

2. **d.** This is the only choice that is complete and correctly written. Choice **a** has a misplaced modifier. Choices **b** and **c** contain sentence fragments.

3.c. This is the only choice that uses proper parallelism. In other words, the verbs in both clauses are in the same tense—in this case, past tense. Each of the other choices contains an illogical shift in tense. The shift in choice **a** is from past tense to present tense. In choice **b**, it is from present to past. In choice **d**, it is from past to present perfect.

4. b. The subject of the sentence is usually a noun or pronoun. To find the simple subject of a sentence, first find the main verb (usually the verb will express action). Now use the verb in a question beginning with *who* or *what*. In this case the only underlined verb is *ordered*. Ask "Who ordered?" The answer is: The *lifeguard* ordered. The subject of the sentence cannot be *thunder*, because that word is part of an introductory clause; *us* is the

object of a verb; and *water* is the object of a preposition.

5. a. A verb expresses action, occurrence, or existence. *Spent* is the simple predicate because it represents the action taken by the subject, which is *We*.
6. b. This answer best establishes the causal relationship between the two sentences. Choices a and c really say that it was the letter that was angry. Although we know better, the construction is awkward and ungrammatical. Choice d really means that the increase in property taxes wrote the letter, which makes no sense.
7. a. The words *these mechanical alarms* will tip you off that mechanical alarms have been mentioned in the previous sentence. In light of that, choice a is the only choice that makes sense. It is also most closely and logically related to the rest of the paragraph.
8. c. This is the only choice that follows up on the idea that green tea is *much more than* a gourmet drink—green tea actually fights disease.
9. c. The focus of the paragraph is ratatouille, not zucchini. Sentence 3 is the only sentence that does not relate to ratatouille at all.

What HSPT Usage Questions Are Like

All the HSPT usage questions ask you to do the following:

Find the sentence that has an error in usage. If you find no mistake, mark **d** as your answer.

10. a. Will you join me for dinner?
 - b. Mollyhad chose not to attend.
 - c. I am wearing my sister's coat.
 - d. No mistakes.
10. b. The correct verb form is *had chosen*.

As you can see, the Language Expression section of the COOP and the Usage section of the HSPT present similar challenges. We'll begin by talking about the similarities. For both kinds of questions, you need to know how to make complete sentences, use verbs correctly, avoid problems with pronouns, and use a lot of basic grammatical skills that you can review in the sections below.

A little later in this chapter, we'll tackle the additional tasks you'll face when you come to the Punctuation and Capitalization, Spelling, and Composition sections of the HSPT.

Complete Sentences

The sentence is the basic unit of written language. Most writing is done using complete sentences, so it's important to distinguish them from fragments. You also need to learn to avoid writing two sentences as if they were one, which is called a *run-on sentence*.

Sentence Fragments

A complete sentence expresses a complete thought, while a fragment needs something more to express a complete thought.

MAKING COMPLETE SENTENCES

Fragment Complete Sentence

The dog walking down the street.	The dog was walking down the street.
-------------------------------------	---

Exploding from the bat for a home run.	The ball exploded from the bat for a home run.
---	---

These examples show that a sentence must have a subject and a verb to complete its meaning. The first fragment above has a subject, but not a verb. *Walking* looks like verb, and in some sentences *is* a verb, but as used here it is actually an adjective describing *dog* (or more specifically what the dog is doing). The second fragment has neither a subject nor a verb. *Exploding* looks like a verb; however, it too is an adjective describing something not identified in the word group. In English, these are called *progressive forms* of verbs. You need not memorize the term, but when you see a word ending in *-ing*, look to see if a "helping" verb is with it. *The dog walking . . .* is not a sentence, because there is no helping verb. *The dog is walking . . .* is a sentence, because of the helping verb *is*.

Now look at the set of word groups below. Can you identify the complete sentences?

11. a. We saw the tornado approaching.

 b. When we saw the tornado approaching.

12. a. Before the house was built in 1972.

 b. The house was built in 1972.

13. a. The mouse stealing the potato chips.

 b. The mouse had been stealing the potato chips.

14. a. We are leaving in the morning.

 b. Since we are leaving in the morning.

If you chose **11.a., 12.b., 13.b., and 14.a.**, you were right. Notice that in **11, 12, and 14**, the groups of words are the same in choices **a** and **b** in all three examples, but in **13.a.**, there is no helping verb. In **11, 12, and 14**, the fragments have an extra word at the beginning, a subordinating conjunction (discussed below).

Let's take another example: If your friend said "I opened the box," you'd know exactly what she meant. However, if she said

"When I opened the box . . ."

you'd wait for her to complete the sentence. If she didn't, you might become impatient and demand

"When you opened the box, *WHAT*?"

Similarly, if she said, "I opened the box *after*," you'd want to know "AFTER *WHAT*?"

So as you can see, the sentence "I opened the box" is no longer a sentence when the word *before*, or *after*, or *when*, or *where* is tacked onto the front or at the end of it. Such words are called *subordinating conjunctions*.

Run-On Sentences

If you can tell when a group of words isn't a sentence, then you can tell when one or more sentences have been run together, sometimes with a comma in between. Some tests will ask you to find *run-on sentences*. Each of the sentences below is a run-on sentence. Can you find where to put a period and begin a new sentence?

15. We went to the beach, we had a good time.

16. Melvin obeyed his stepmom's rule he kept his room clean.

17. Emily wanted to stay home with her new hamster, her mom said she had to go to school.

If you noticed that a new sentence begins after *beach* in the first sentence, after *rule* in the second, and after *hamster* in the third, you were right.

Certain questions on the COOP or HSPT will test your ability to distinguish a sentence from a fragment or a run-on. Approach these questions by taking the following steps:

- Check to see that the group of words has both a subject and a verb.
- Make sure that what looks like a verb isn't actually an adjective (or adjectival phrase) describing the noun that precedes it.
- Check to see if the group of words is preceded by a subordinating conjunction.

Now let's look more closely at the individual parts of a sentence. Knowing as much as you can about the separate parts can make your identification of the whole much easier.

Verbs

Subject-Verb Agreement

In written language, a subject must agree with its verb in number. In other words, if a subject is singular, the verb must be singular. If the subject is plural, the verb must be plural. If you are unsure whether a verb is singular or plural, you can test it in a very simple way. Fill in the blanks in the two sentences below with the correct form of a verb—any verb. The verb form that best completes the first sentence is singular. The verb form that best completes the second sentence is plural.

One person _____. [singular]
Two people _____. [plural]

Now fill in the blanks, using the verbs *speak* and *do*.

One person *speaks*. One person *does*.

Two people *speak*. Two people *do*.

Verb Tense

The tense of a verb tells a reader when the action occurs. Present tense verbs tell the reader to imagine that action happening as it is being read, while past tense verbs tell the reader the action has already happened. Read the following two paragraphs. The first one is written in the present tense, the second in the past tense. Notice the difference in the verbs. They are highlighted to make them easier to locate.

As Horace **opens** the door, he **glances** around cautiously. He **sees** signs of danger everywhere. The centerpiece and placemats from the dining room table **are scattered** on the floor next to the table. An end table in the living room **is lying** on its side. He **sees** the curtains flapping and **notices** glass on the carpet in front of the window.

As Horace **opened** the door, he **glanced** around cautiously. He **saw** signs of danger everywhere. The centerpiece and placemats from the dining room table **were scattered** on the floor next to the table. An end table in the living room **was lying** on its side. He **saw** the curtains flapping and **noticed** glass on the carpet in front of the window.

It's easy to distinguish present tense from past tense by simply fitting the verb into a sentence.

The important thing to remember about verb tense is to keep it consistent. If a passage begins in the present tense, keep it in the present tense unless there is a specific reason to change—to indicate that some action occurred in the past, for instance. If a passage begins in the past tense, it should remain in the past tense. Verb tense should never be mixed as it is in the following sentence.

Wrong: Terry **opens** the door and **saw** the crowd.

Correct: Terry **opens** the door and **sees** the crowd.
Terry **opened** the door and **saw** the crowd.

However, sometimes it is necessary to use a different verb tense in order to clarify when an action occurred. Read the following sentences and the explanations following them.

The game warden **sees** the fish that you **caught**. [The verb **sees** is in the present tense, indicating that the action is occurring in the present. However, the verb **caught** is in the past tense, indicating that the fish were caught at some earlier time.]

Clear Sentences

Some civil service exams may ask you to read two or more written versions of the same information and to choose the one that most clearly presents accurate information. It may be that all the choices are more or less correct grammatically, but some of them are so poorly written that they're hard to understand. You want the best option, the one that's clearest and most accurate. Check for accuracy first. If the facts are wrong, the answer is wrong, no matter how well-written the answer choice is. If the facts are accurately represented in several of the answer choices, then you must evaluate the writing itself. Here are a few tips for choosing the best answer.

1. The **best** answer will be written in plain English in such a way that most readers can understand it the first time through. If you read through an answer choice and find you need to reread it to understand what it says, look for a better option.
2. The **best** option will present the information in logical order, usually chronological order. If the order seems questionable or is hard to follow, look for a better option.
3. The **best** option will be written with active rather than passive verbs. Answer choices written with passive verbs sound formal and stuffy. Look for an option that sounds like normal conversation. Here's an example.

Passive Voice

At 8:25 p.m., Officer Sanchez was dispatched to 18 Grand, an apartment complex, where a burglary had been reported by Milo Andrews, the manager.

ANSWERING MULTIPLE-CHOICE QUESTIONS ON GRAMMAR IN SENTENCES

As you take the portion of the test that assesses your writing skills, apply what you know about the rules of grammar:

- Look for complete sentences.
- Check for endmarks, commas, and apostrophes.
- Look for subject-verb agreement and consistency in verb tense.

Active Voice

At 8:25 p.m., Officer Sanchez responded to a burglary reported by Milo Andrews, the manager of an apartment complex at 18 Grand.

The first version uses the passive verbs "was dispatched" and "had been reported" rather than active verbs. The second version uses the active verb "responded."

HSPT Punctuation and Capitalization

All the HSPT Punctuation and Capitalization questions ask you to do the same thing—to be able to recognize when there are punctuation and capitalization mistakes in a sentence and (just as importantly) to recognize when there are no errors. Following is an example:

Sample Question

For Number 18, find the sentence that has a mistake in capitalization, punctuation, or usage. If you find no mistakes, mark choice **d**.

- 18.**
- a. Doug's least favorite subject is gym.
 - b. In april, I had a bike accident.
 - c. We told Alice to go home and wash her face.
 - d. No mistakes.

Answer

18.b. Choice **b** contains a capitalization error. The word *April* should be capitalized.

Let's look more closely at English capitalization and punctuation.

Capitalization

You may encounter questions that test your ability to capitalize correctly. Here is a quick review of the most common capitalization rules. (See also the table on the next page.)

- Capitalize the first word of a sentence. If the first word is a number, write it as a word.
- Capitalize the pronoun *I*.
- Capitalize the first word of a quotation: I said, "What's the name of your dog?" Do not capitalize the first word of a partial quotation: He called me "the worst excuse for a student" he had ever seen.
- Capitalize proper nouns and proper adjectives.

Punctuation

Periods

Here is a quick review of the rules regarding the use of a period.

CAPITALIZATION

Category	Example (Proper nouns)
days of the week, months of the year	Friday, Saturday; January, February
holidays, special events	Christmas, Halloween; Two Rivers Festival, Dilly Days
names of individuals	John Henry, George Billeck
names of structures, buildings	Lincoln Memorial, Principal Building
names of trains, ships, aircraft	Queen Elizabeth, Chicago El
product names	Corn King hams, Dodge Intrepid
cities and states	Des Moines, Iowa; Juneau, Alaska
streets, highways, roads	Grand Avenue, Interstate 29, Deadwood Road
landmarks, public areas	Continental Divide, Grand Canyon, Glacier National Park
bodies of water	Atlantic Ocean, Mississippi River
ethnic groups, languages, nationalities	Asian-American, English, Arab
official titles	Mayor Daley, President Johnson
institutions, organizations, businesses	Dartmouth College, Lions Club, Chrysler Corporation
proper adjectives	English muffin, Polish sausage

- Use a period at the end of a sentence that is not a question or an exclamation.
- Use a period after an initial in a name: Millard K. Furham.
- Use a period after an abbreviation, unless the abbreviation is an acronym.

Abbreviations: Mr., Ms., Dr., A.M., General Motors Corp., Allied Inc.

Acronyms: NASA, AIDS

- If a sentence ends with an abbreviation, use only one period. (We brought food, tents, sleeping bags, etc.)

Commas

Using commas correctly can make the difference between presenting information clearly and distorting the facts. The following chart demonstrates the necessity of commas in written language. How many people are listed in the sentence?

COMMAS AND MEANING

Number undetermined	My sister Diane John Carey Melissa and I went to the fair.
Four people	My sister Diane, John Carey, Melissa, and I went to the fair.
Five people	My sister, Diane, John Carey, Melissa, and I went to the fair.
Six people	My sister, Diane, John, Carey, Melissa, and I went to the fair.

Here is a quick review of the most basic rules regarding the use of commas.

- Use a comma before *and*, *but*, *or*, *for*, *nor*, and *yet* when they separate two groups of words that could be complete sentences.

Example: The coaches laid out the game plan, and the team executed it to perfection.

- Use a comma to separate items in a series.

Example: The student driver stopped, looked, and listened when she got to the railroad tracks.

- Use a comma to separate two or more adjectives modifying the same noun.

Example: The hot, black, rich coffee tasted great after an hour in below-zero weather. [Notice that there is no comma between *rich* (an adjective) and *coffee* (the noun *rich* describes).]

- Use a comma after introductory words, phrases, or clauses in a sentence.

Examples: Usually, the class begins with a short writing assignment. [Word]

Racing down the street, the yellow car ran a stoplight. [Phrase]

After we found the source of the noise, we relaxed and enjoyed the rest of the evening. [Clause]

- Use a comma after a name followed by Jr., Sr., or some other abbreviation.

Example: The class was inspired by the speeches of Martin Luther King, Jr.

- Use a comma to separate items in an address.

Example: The car stopped at 1433 West G Avenue, Orlando, Florida 36890.

- Use a comma to separate a day and a year, as well as after the year.

Example: I was born on July 21, 1954, during a thunderstorm.

- Use a comma after the greeting of a friendly letter and after the closing of any letter.

Example: Dear Uncle Jon, Sincerely yours,

- Use a comma to separate contrasting elements in a sentence.

Example: Your essay needs strong arguments, not strong opinions, to convince me.

- Use commas to set off appositives (words or phrases that explain or identify a noun).

Example: My cat, a Siamese, is named Ron.

Apostrophes

Apostrophes communicate important information in written language. Here is a quick review of the two most important rules regarding the use of apostrophes.

- Use an apostrophe to show that letters have been omitted from a word to form a contraction.
- Use an apostrophe to show possession.

APOSTROPHES TO SHOW POSSESSION

Singular nouns (add's)	Plural nouns ending in s (add')	Plural nouns not ending in s (add's)
boy's	boys'	men's
child's	kids'	children's
lady's	ladies'	women's

HSPT Spelling

The HSPT Spelling section is in a multiple-choice format. You will be given three sentences labeled **a**, **b**, and **c**. One (and only one) of these sentences *may* contain a misspelled word. There will be a fourth choice, **d**, that reads, "No mistakes." For this part of the test, you must be able to see very fine differences between word spellings. The best way to prepare for a spelling test is to have a good grasp of the spelling fundamental rules—and to be able to recognize when those rules don't apply.

The HSPT test is mainly looking to make sure of three things:

- That you know and can apply the basic rules
 - That you remember that English spelling is full of exceptions to the rules
 - That you have developed a good eye to spot spelling errors

Here are some of the basic rules to review:

- *i* before *e*, except after *c* or when *ei* sounds like *a* Examples: piece, receive, neighbor
 - *gh* can replace *f* or be silent

Examples: *enough, night*

- Double the consonant when you add an ending

Examples: forget/forgettable, shop/shopping

- Drop the *e* when you add *ing* *Example:* hope/hoping
 - The spelling of prefixes and suffixes generally doesn't change

Examples: project, propel, proactive

Sample Question

Here is an example of how spelling questions will appear on the HSPT, in Part 5, Language Skills.

For question 19, look for mistakes in spelling only.

19. a. We went to an exhibition of the 10th grade art student's drawings.
responsible for this mess in my locker? b. I went to soccer practice late, and the coach berated me.
d. No mistakes. c. Who is

Answer

- 19. c.** The word *responsible* is misspelled.

How to Answer Spelling Questions

Keep in mind the basics that you probably learned a long time ago—that is, that the English alphabet is made up of:

Vowels: *a, e, i, o, u*, and sometimes *y*

Consonants: all the other letters

Now here are some tips on how to approach the spelling questions on the HSPT:

Sound out the Word in Your Mind

Remember that long vowels inside words usually are followed by single consonants; for example:

- *sofa* (*o* followed by a single *f*)
- *total* (*o* followed by a single *t*)

Short vowels inside words usually are followed by double consonants; for example:

- *dribble* (*i* followed by *bb*)
- *scissors* (*i* followed by *ss*).

Sounding out the words will help you "hear" whether you're dealing with a long or short vowel.

Give Yourself Auditory (Listening) Clues

As you're learning how to spell words, repeat the word in your mind, but say it the way it's spelled. For example, say "*Wed-nes-day*" instead of "*Wensdy*" or "*lis-ten*" instead of "*lis-sen*" or "*bus-i-ness*" instead of *biznus*." That way, you'll remember to add letters you do not hear in ordinary conversation.

Look at Each Part of a Word

See if there is a root, prefix, or suffix that will always be spelled the same way. For example, in *uninhabitable*, there is the prefix *un-*, the prefix *in-*, and the suffix *able*, leaving the root word *habit*, which is easy to spell. Examples of words that are changed in meaning by the addition of prefixes and suffixes are shown in the tables on this page.

Prefix	Root	Word
dis	agree	disagree

un	usual	unusual
----	-------	---------

mis	used	misused
-----	------	---------

re	emphasize	reemphasize
----	-----------	-------------

Root	Suffix	Word
------	--------	------

mark	er	marker
------	----	--------

start	ing	starting
-------	-----	----------

play	ful	playful
------	-----	---------

agree	able	agreeable
-------	------	-----------

Use a Spelling List

Ask a parent or teacher for a spelling list, or make up one of your own, then do the following:

- **Cross out** or **discard** any words you already know for certain.
- **Divide** the remaining list into groups of three to five words, and **concentrate** on those until you know them, then move on. Another good approach is **to make flash cards** of words you don't know.
- **Highlight** or circle the tricky elements in each word. For example, if you are learning to spell the word "psychology," circle the p, because, although the word is pronounced "sychology," it is *spelled* "psychology."
- **Say** the words aloud as you read them. Remember to pronounce them as they're spelled, not as they're spoken in everyday language: "de-bt," rather than "det," "p-sychology" rather than "sycology," and so on. (Of course you will not want to forget how the words are REALLY pronounced, once you learn how to spell them!)
- **Spell** each word out in your mind, so you can "hear" the spelling.

HSPT Composition

Besides asking you to recognize errors in punctuation, capitalization, usage, and spelling, the Language Skills section of the HSPT will ask you to recognize effective composition of sentences and paragraphs, and to spot poor composition.

Paragraph Development

Here is a well-developed, logical, and coherent paragraph:

(1) There are many myths about bats that need to be dispelled if we are to come to appreciate these fascinating creatures. For example, bats are not "flying mice," as they have sometimes been described. In fact they are not rodents at all. It is true that they look a little like winged mice, but this is only surface appearance. Actually, according to biologists, bats are more closely related to primates (including humans, you and me) than they are to the rodents. The anatomy of their arms and hand bones are very like our own, and they have canine teeth instead of the huge incisors of rodents. Another myth sometimes repeated by people who do not understand bats is that, because they are blind, they are apt to run into people and become entangled in their hair. Actually, bats are NOT blind, and they have a highly developed radar system that enables them to detect, with precision, objects of interest to them—such as a small insect they might have for dinner, or a large obstacle they very much want to avoid, such as a tree, a telephone pole, or a person.

Now suppose the paragraph were written like this:

In fact they are not rodents at all. The anatomy of their arms and hand bones are very like our own, and they have canine teeth instead of the huge incisors of rodents. It is true that they look a little like winged mice, but this is all surface appearance. You can learn many interesting facts from an encyclopedia. Another myth repeated by people who do not understand bats is that, because they are blind, they are apt to run into people and become entangled in their hair. Actually, according to biologists, bats are more closely related to primates (that includes humans, you and me) than they are to the rodents. There are many myths about bats that should be dispelled. For example, bats are not "flying mice," as they have sometimes been described. Actually, bats are NOT blind, and they have a highly developed radar system that enables them to detect, with precision, objects of interest to them—such as a small insect they might like to have for dinner, a large obstacle they very touch want to avoid, such as a tree, a telephone pole, or a person.

With the exception of the inclusion of one irrelevant sentence (*You can learn many interesting facts from an encyclopedia*), the secqpd paragraph is exactly like the first—except that its sentences have been scrambled. so that it is now annoyingly difficult to read.

Suppose, besides being incoherent, the paragraph were made up of individual sentences that were mangled. Take a look at this:

The anatomy is similar to ours, with arms and hand bones and, unlike rodents that have huge incisors, canine teeth. In surface appearance, you could say they are like winged mice and that is true. Many interesting facts can be learned from an encyclopedia. Not rodents at all, biologists say bats closely relate to humans, as primates, than they relate to rodents. Bats as "flying mice" is one of the myths about bats that should be dispelled, as they are sometimes described

We'll stop there. It's doubtful you'd ever find such a paragraph in a book on bats or on anything else, but if you did, you'd probably put the book back on the shelf without finishing even one paragraph.

Characteristics of Good Paragraphs

An effective paragraph has the following characteristics:

- A clear, controlling idea—usually expressed in the topic sentence. In the first paragraph above, the topic sentence is easy to spot: *There are many myths about bats that need to be dispelled if we are to come to appreciate these fascinating creatures.* This sentence controls the paragraph.
- A pattern of organization that dearly relates to (and usually supports) that idea. The paragraph about bats is organized with topic sentence first, dealing with myths about bats, followed by examples of mistaken myths that tend to "prove" the main idea. There are other types of paragraph organization—the main thing to look for in all is clarity.
- Sentences that are correctly written and coherent. For example, contrast the first and third paragraphs!

What the HSPT Composition Questions Look Like

Here are the directions for the questions we've been discussing. (For examples of the questions themselves, see Chapters 4 and 13, HSPT Practice Tests 1 and 2, Part 5 of each.)

For Numbers 1 through 7, follow the directions for each question.

These directions will be followed by seven basic question types.

1. Choose the word that best joins the thoughts together.
2. Which of these expresses the idea most clearly?
3. Choose the group of words that best completes this sentence.
4. Which of these best fits under the topic, "The Insect Is Our Friend"?
5. Which sentence does NOT belong in the paragraph?
6. Where should the sentence, *Why is it that we think ladybugs are cute, whereas we detest cockroaches?* be placed in the paragraph below?
7. Which of the following topics would be best for a one-page essay?

Summary

In order to have success on the Language Expression portion of the COOP or on the Language Skills portion of the HSPT, you will need the skill to recognize:

- What makes an effective, coherent, and mechanically correct sentence
- What makes a logically developed paragraph

As you probably already know, the best way to acquire skill—whether in English or in basketball—is not just to read about it, but to **practice**. So be sure to do all the Practice Exams in this book. You'll be amazed at how rapidly your skills—and your self-confidence—will grow!

Chapter 9— Verbal Reasoning

Chapter Summary

This chapter gives hints on how to deal with questions you will encounter on the Verbal Reasoning section of the COOP and on the Verbal Analogies, Logic, and Verbal Classification sections of the HSPT. These parts of the two exams test your general ability to reason about the relationships between words.

Besides a good vocabulary, in order to achieve success in high school you will need the ability to see relationships between words and between ideas. This is the ability that is tested on the Verbal Reasoning section of the COOP and on the Verbal Skills portion of the HSPT. There is some overlap between these sections of the two tests; however, for simplicity, we'll discuss them separately here.

COOP: Verbal Reasoning

The COOP uses four kinds of questions to test your ability to reason with words. Following are the directions you'll receive for each kind of question, accompanied by examples and tips on how to approach the questions.

Necessary Part Questions

Directions for the first type of question on the Verbal Reasoning portion of the COOP will read as follows:

Find the word that names a **necessary** part of the underlined word.

A good way to approach this kind of question is by saying to yourself the following sentence: "A _____ could not exist without _____. Take a look at this example.

1. tree

- a. fruit
- b. forest
- c. roots
- d. shade

Now look at what happens when you put each of the answer choices into a sentence:

- a. *A tree could not exist without fruit.* As you know, many trees do not have fruit hanging from them, so you can move on to the next answer choice.
- b. *A tree could not exist without a forest.* This is wrong, too, of course. What about that lone elm in your best friend's backyard?
- c. *A tree could not exist without roots.* True, right? All trees are nourished through their roots. Without roots they would die.
- d. *A tree could not exist without shade.* Another wrong choice, because at night there's no shade, but the tree's still there.

So, the answer is **c.**

- 1. c.** The essential part of a tree is its roots. Choices **a** and **d** are incorrect because they are byproducts of trees. Choice **b** is wrong because being in a forest is not essential to the growth of a tree.

Word Relationship Questions

Now let's look at the second type of question on the Verbal Reasoning portion of the COOP. The directions for this type will read:

In question **2**, the words in the top row are related in some way. The words in the bottom row are related in the same way. For each item, find the word that completes the bottom row of words.

2. shirt coat clothing

ring bracelet _____

- a. necklace
- b. jewelry
- c. earring
- d. silver

These questions are a bit more complicated. The approach you'll use will depend on what the first three words are; however, for all questions of this type, there are three main steps to take:

1. Form mental pictures based on the first three words.
2. Make up a sentence using the first three words.
3. Insert the second two words and each of the answer choices into that sentence

Now, go through these steps for question 2 above. First, create a picture. It's easy to picture a particular

shirt and a particular *coat*, but to picture *clothing* is harder, because the word is less specific; it's not an object but a category that can include a shirt, or a coat, or shoes, or trousers, and so on. By now, you have noticed that a *shirt* and a *coat* both belong to the category *clothing*.

Now you're ready to form sentences, beginning with the first three words: *A shirt and a coat are both clothing*. Now look at the second line and the answer choices and make up a similar sentence:

- a. *A ring and a bracelet are both necklaces.* "No," you'll say to yourself. "That's silly." And you'll move on.
- b. *A ring and a bracelet are both jewelry.* Aha! This seems right. But do check out the other choices just to make sure there isn't something better.
- c. *A ring and a bracelet are both earrings.* Nope. Silly again.
- d. *A ring and a bracelet are both silver.* Well, they might be, but not necessarily. Choice b is still the best answer.

Since there are several possible variations on this type of question, let's try another example.

3. honeybee angel bat
kangaroo rabbit _____

- a. mermaid
- b. possum
- c. grasshopper
- d. sprinter

First, form your mental picture. The one that springs immediately to mind might be of a *honeybee* sitting on a flower and an *angel* sitting on a cloud. But when you come to picturing a *bat*, you're stopped in your tracks and have to go back. Now you see a *honeybee* buzzing around a flower, an *angel* flying through clouds. Aha! That's it. In your mind's eye, a *bat* comes swooping out of a cave. They all can fly. So your sentence will be: *A honeybee, an angel, and a bat can all fly*.

Now move on to *kangaroo* and *rabbit*. Chances are you'll immediately see the *rabbit* and the *kangaroo* hopping. Examine the answer choices now. When you picture a *mermaid*, a *possum*, or a *sprinter*, you'll probably see no similarity; however, a *grasshopper* (choice c) definitely hops. A *honeybee*, an *angel*, and a *bat* we all capable of flight. A *kangaroo*, a *rabbit*, and a *grasshopper* are all capable of hopping.

Must-Be-True Questions

Now we'll look at the third type of question you'll find on the Verbal Reasoning portion of the COOP. Here are the directions and a sample question:

Find the statement that must be true according to the given information.

4. Jenna lives in a large city on the East Coast. Her younger cousin Marlee lives in the Midwest in a small town with less than 1,000 residents. Marlee has visited Jenna several times during the past five years. In the same period of time Jenna has visited Marlee only once.

- a. Marlee likes Jenna better than Jenna likes Marlee.
- b. Jenna thinks small towns are boring.
- c. Jenna is older than Marlee.
- d. Marlee wants to move to the East Coast.

In approaching this type of question, the important thing is to avoid any answer choice that is not written explicitly (that is, plainly) in the short informational

passage. These questions do not test your ability to make inferences or draw conclusions, *only* to look at what is on the page. You have to find the statement that **must be true**. The best way to approach this problem is to read the answer choices in turn, going back each time to look for that exact information in the short passage. For example:

- a. *Marlee likes Jenna better than Jenna likes Marlee.* Now look at the informational passage. There is nothing in it about who likes whom. So move on.
- b. *Jenna thinks small towns are boring.* Look again at the passage. There is nothing in it about how either girl feels about small towns.
- c. *Jenna is older than Marlee.* Aha! Reading carefully, you'll see that Marlee is Jenna's *younger* cousin.

Since there is only one right answer, you can stop right here. The answer is **c**.

Imaginary Language Questions

The fourth type of question you'll find on the COOP will be introduced by the following directions:

Here are some words translated from an artificial, imaginary language. Read the words and answer the question.

These directions will be followed by three nonsense words. The question that follows the list of three will ask you to reverse the process and translate an English word into the artificial language. Look at the following example:

5. Here are some words translated from an artificial language.

linsmerk means oak tree
linsdennel means oak table
merkhaba means treehouse

Which word means *tablecloth*?

- a. merkvoil
- b. habadennel
- c. dennelzent
- d. linszent

Your best approach to this type of problem is to look for elements (parts) of the nonsense words that appear both on the list and in the answer choices. It might help to quickly jot down these repeated elements in the margin of your test booklet. In this example, three elements of the nonsense words appear in the answer choices: *lins*, *merk*, and *dennel*. Now look closely at the order of the elements—this is extremely important! You may want to number the elements:

- (1) lins (2) merk means (1) oak (2) tree
- (1) lins (2) dennel means (1) oak (2) table
- (1) merk (2) haba means (1) tree (2) house

The question asks. Which word means *tablecloth*? Look at the number that corresponds to the word *table*. It is (2). Now, in the same line, look at the other element labeled (2). It's *dennel*. So now you know that *dennel* means *table*.

Now look only at the list. Which elements of the English words are repeated? In this case, again three elements are repeated: *oak*, *tree*, and *table*. The question asks about only one of these elements: *table*. On the list, the word *table* appears only once, and you've already translated that from the artificial word *dennel*. Now look

for *dennel* in the answer choices. You can narrow the possibilities down to two: *habadennel* and *dennelzent*.

Your last task, again, is to look carefully at the order of the parts. In the word *tablecloth*, the *table* part comes first. Therefore, even though you have not been given the artificial word for *cloth*, you know that the correct choice is the one with *dennel* as the first part. That's choice **c**, *dennelzent*.

HSPT— Verbal Skills

There are five types of questions on the Verbal Skills portion of the HSPT:

Verbal Analogies

Synonyms

Logic

Verbal

Classification

Antonyms

Synonyms and antonyms are covered in Chapter 7 of this book. In this chapter, we will look at the rest of the list: Verbal Analogies, Logic, and Verbal Classification.

Verbal Analogies

In an analogy, two sets of words are related to each other in a specific similar way. The verbal analogy portion of the HSPT tests your ability to see these word relationships. You will be given a set of two words that are related, followed by a third word and four answer choices. Of the four choices, you must identify the one that would best complete the second set so that it expresses the same relationship as in the first set. Each question is constructed the same way:

6. Aspirin is to headache as bandage is to

- a. injection
- b. sprain
- c. wound
- d. welt

The correct answer is **c**, *wound*. This is a "use or function" analogy: in both sets of words—aspirin and headache, bandage and wound—something is used for something else. *Aspirin* is used to treat a *headache*, a *bandage* is used to treat a *wound*. All the other choices in this question are loosely associated with injury or illness, but the one clearly *best* answer is choice **c**.

Analogy can be difficult, but you can conquer them by following the steps listed below.

Look at the Literal Meaning of the Words

The first challenge is to know what all the words in the analogy question mean. For this, there is no substitute for reading widely. Between now and the time of the actual test, you should read everything you can get your hands on, from textbooks to comic books, from directions on products you find around the house to newspapers and magazines. If you run onto a word you don't know, look it up. In addition, use the skills you acquired in Chapter 7, the part called "How to Prepare for Synonym and Antonym Questions." Pay particular attention to word parts when you encounter an unfamiliar word.

Look at the Exact Relationship between the Words

After figuring out the meaning of each word in the analogy, you must master the art of seeing the relationship between the words. In the practice section below, each answer explanation tells what type of analogy is involved—that is, what kind of relationship the question represents. Be sure to read these answer explana-

tions so you will be familiar with the various types of relationships that are possible.

Make up a Sentence

A good way to figure out the relationship in a given question is to make up a sentence. You must first read each question carefully, as it is easy to mistake one kind of analogy for another and make the wrong answer choice. Formulating a sentence that expresses the relationship is the best way to avoid this mistake. Take question 6 above as an example. Following are sentences you might make up when approaching the analogy.

- *Aspirin* is used to treat a *headache*. A *bandage* is used to treat an *injection*? Nope. As soon as you say the sentence, you know that choice a is wrong. So you must try again.
- . . . *A bandage* is used to treat a *sprain*. Again, no. You might use one of those wrap bandages, but not a regular bandage.
- . . . *A bandage* is used to treat a *wound*. Yes, of course. Your sentence tells you this is the right choice. But wait! Take the time to look at the last choice, just to make sure it's not better.
- . . . *A bandage* is used to treat a *welt*. If you're not sure exactly what a *welt* is, you're out of luck. But if you know, from your wide reading, that a welt is a bump such as a bee sting might leave, then you'll know that the word *wound*—an injury in which the skin is torn or broken—is better.

Remember That a Word May Have Several Meanings

Words often have more than one meaning or varying shades of meaning. For example, you might encounter an analogy that includes the word *shoulder*, which can be a part of the body or the side of a road. Making up a sentence will help you avoid confusion.

Watch Your Time

The analogy questions in the Verbal Skills section of the HSPT are generally considered the hardest (with logic questions a close second), so don't dawdle on simple synonym and antonym questions. In fact, when you're doing the practice tests in this book, try skimming through and doing the analogy questions first. See if that approach works for you, and if it does use it when you take the actual test.

Practice, Practice, Practice

The very best way to hone your skills for the verbal analogy portion of the HSPT is to practice. Below are some sample analogy questions, and after the questions are a set of answers, each including a short explanation of the answer and the type of analogy involved. There are many types of analogies, and they're not all included here, but mention of some of the various categories should help. The practice you do on the sample tests in this book will also sharpen your skills.

Practice Analogy Questions

7. Groom is to wedding as lawyer is to

- a. crime
- b. accident
- c. trial
- d. client

8. Mouse is to mammal as pickup is to

- a. car
- b. wheel
- c. truck
- d. driver

9. Gale is to breeze as terror is to

- a. uneasiness
- b. scream
- c. intimidation
- d. irritation

10. Weeping is to grief as tantrum is to

- a. fit
- b. kicking
- c. loudness
- d. rage

11. Love is to hate as optimism is to

- a. depression
- b. meanness
- c. pessimism
- d. realism

12. Teeth are to mouth as brick is to

- a. kiln
- b. wall
- c. clay
- d. masonry

13. Halloween is to witch as summer is to

- a. vacation
- b. season
- c. winter
- d. time

14. Enraged is to irritated as broken is to

- a. smashed
- b. damaged
- c. cracked
- d. irreparable

15. Explore is to discovery as exercise is to

- a. aerobics
- b. sports
- c. running
- d. fitness

16. Organ is to heart as dog is to

- a. canine
- b. poodle
- c. breed
- d. mammal

Answers to Practice Questions

7. You can think of this as a "part-to-whole" analogy. A sentence describing the nature of the analogy might go like this: A *groom* is a member of (or a part of) a *wedding*, a *lawyer* is a part of a _____. The correct answer is *trial*, as this is the only word that would logically complete the sentence.

8. Choice c is correct. This is a "classification" analogy; that is, one word is a type or subset of the other. A *mouse* is a type of *mammal*; a *pickup* is a type of *truck*.

9. a. This is a "proportion or degree" analogy, in which one word may represent an increase or decrease of the other; or there may be a difference in degree between the two words in the set. The same difference will then exist between the two words in the other set, although there may be no other relationship between the two sets of words. A *gale* is a high wind; a *breeze* is a gentle wind. *Terror* is extreme fright; *uneasiness* is mild fright. Thus, choice a is correct.

10. d. This analogy is based on "cause and effect." *Weeping* is caused by *grief*, a *tantrum* is caused by *rage*, so choice d is correct. Always look for the relationship between the words. A *tantrum* is a kind of *fit*, but it is not caused by a fit, and so the two words *tantrum* and *fit* are not related in the same way as the words *weeping* and *grief*.

11. c. Analogies may express a "similarity or difference." In this type, the second word will be a synonym or antonym of the first word, and so you will have to look for an answer choice that is also a syn-

onym or antonym. *Love* and *hate* are opposite emotions; *optimism* and *pessimism* are opposite temperaments. Thus, the correct choice is **c**. This kind of question will test your vocabulary as well as your ability to reason about the relationships of words. If you didn't know what *optimism* was, you might have a tough time choosing the correct answer.

12. b. This analogy relies on a "part-to-whole or whole-to-part" relationship. That is, the second word may be a part of the thing expressed in the first word, or vice versa. Choice **b** is correct. The *teeth* are a part of the *mouth*; a *brick* may be part of a *wall*.

13. a. The relationship in an analogy may express "a strong association or a connection" between the meanings of the two words. There is a strong association between *witches* and *Halloween* and between *summer* and *vacation*, so the correct choice is **a**.

14. c. This analogy concerns "proportion or degree." To be *enraged* is to be violently angry; to be *irritated* is to be mildly angry. To be *broken* is to be severely damaged; to be *cracked* is to be mildly damaged.

15. d. This is a "cause-and-effect" analogy. *Exploring* generally leads to *discovery*; *exercise* lends to *fitness*. The other choices maybe kinds of exercise but they are not the cause of exercise.

16. b. This is a "classification" analogy. A *heart* is a type of *organ*. A *poodle* is a type of *dog*. Note that the order of the words in the analogy is important. In this case, the word *organ* comes first, then the subtype *heart*; similarly, the word *dog* comes first, so you want **a** subtype. Thus, choice **d** is wrong; although a dog is a type of mammal, a mammal is not a type of dog.

Logic Questions

The Logic portion of the HSPT may appear daunting at first. However, solving the logic problems can really be done in the most straightforward way. Simply "translate" the abstract relationships in the question into real-world relationships, so you can see the facts more clearly. Here is an example.

17. Corn Flakes cost less than Wheat Flakes. Oat Flakes cost more than Wheat Flakes. Oat Flakes cost less than Corn Flakes. If the first two statements are true, the third statement is

- a.** true
- b.** false
- c.** uncertain

Approach this problem by making a little grid with all the information on it, translated into simple "real world" terms:

Wheat Flakes	\$2.50
Corn Flakes (less than Wheat)	\$2.00
Oat Flakes (more than Wheat)	\$2.75

So the statement that "Oat Flakes (at \$2.75) cost less than Corn Flakes (at \$2.00)" is clearly false, and the answer is **b**.

Now look at a second example:

18. Gloria is younger than Francesca. Yvonne is older than Gloria. Yvonne is older than Francesca. If the first two statements are true, the third statement is

- a.** true
- b.** false
- c.** uncertain

If you write down the information you know and try to fill in what you don't, you get something like this:

Gloria 12 years old

Francesca 14 years old (older than Gloria)

Yvonne 13 (older than Gloria, but younger than
Francesca)

OR

Yvonne 19 (older than Gloria and older than
Francesca)

So the statement "Yvonne is older than Francesca" is uncertain. The correct answer is choice **c**.

Practice Logic Questions

Now try a couple more of these logic questions:

19. Marshalltown is east of Susanville. Halsted is north of Marshalltown. Susanville is southeast of Halsted. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

20. Vincent runs faster than Carlos but slower than Michael. Carlos runs faster than Howie. Howie runs slower than Vincent. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

Answers to Practice Questions

19. b. Drawing a very simple map will help with this one. It will show Susanville is actually southwest of Halsted.

20. a. Again, a real-world example will help:

Michael 20 miles per hour

Vincent 15 miles per hour (slower than
Michael, faster than Carlos)

Carlos 10 miles per hour (faster than
Howie)

Howie 5 miles per hour

Verbal Classification

The final type of verbal reasons question you'll find on the HSPT is the verbal classification question. Here is an example:

21. Which word does NOT belong with the others?

- a. jury
- b. judge
- c. courtroom
- d. bailiff

The important thing (as the name "verbal classification" indicates) is to *classify* the words in the four answer choices. Three of the words will be in the same classification, the remaining one will not be.

In this question, all four choices have to do with legal proceedings, so the classification "legal" is no help. You must look more closely: Note that three of the choices are people: a jury, a judge, and a bailiff. A courtroom, choice **c**, is a place. This is the one that doesn't fit.

Practice Logic Questions

Now try these practice questions.

22. Which word does NOT belong with the others?

- a. butter
- b. cream
- c. cheese
- d. margarine

23. Which word does NOT belong with the others?

- a. vanish
- b. evade
- c. dodge
- d. avoid

24. Which word does NOT belong with the others?

- a. solid
- b. matter
- c. liquid
- d. gas

Answers to Practice Questions

22. d. *Butter*, *cream*, and *cheese* all belong to the classification "products made from milk." *Margarine* is made not from milk, but from vegetable oils.

23. a. *Evade*, *dodge*, and *avoid* are all synonyms that mean "staying out of the way of." *Vanish* means to disappear.

24. b. *Solid*, *liquid*, and *gas* are all "properties of *matter*." So *matter* does not belong.

Chapter 10— Memory

Chapter Summary

This chapter show you how to tackle the memory section of the COOP. You'll find out what kind of questions appear in this section and learn vital tips for memorizing strange and unfamiliar words. Finally, you can try your hand at some sample questions.

The memory section of the COOP tests *only* your memory. It does not test your reasoning ability, your reading skill, or your ability to work with numbers. Doing well does not depend on your having come from a privileged background or even having attended a good school. What it does ask of you is that you exercise your imagination.

If you are one of the few lucky people who have photographic memories, then you can skip this chapter because you already have the ability to "load" pages of text into your memory bank and "read" them back at the time of the test. But if you are not so lucky (and most of us aren't), you may feel it's hopeless to try to memorize the kind of nonsense words that the COOP will present you with.

There are two main reasons that you may feel overwhelmed:

- You probably tend to think of memory as something a person either has or doesn't have, and nothing can be done about it.
- In the past, you probably approached memory tasks using only rote memory, trying to beat facts into your head by simply repeating them over and

over. On the COOP memory test, this method is like using a sledgehammer to crack a walnut

In reality, what you need in order to remember unfamiliar words (or even numbers) is the ability to *associate* or *link* them with something concrete and familiar. This chapter will show you how. Let's look at how the COOP memory questions are constructed.

How to Remember, or: The Dancing Elephant

Before you begin the COOP, you'll be given a list of 20 nonsense words and their definitions. An examiner will read the definitions aloud to you as you follow along, and then you'll have an additional 10 minutes to work on memorizing them. After that, you will spend about 25 minutes taking Test 1 (Sequences) and Test 2 (Analogies). Then you will take Test 3, Memory, to see how many of the definitions you remember.

Let's look at an example. Suppose the words and definitions you are given include the following:

1. A *polko* is an elephant.
2. *Zilop* means to jump.
3. A *prill* is a dream.

As you can see, these words are utterly absurd. If you approach them by simply repeating them over and over, trying to drill them into your head, you're sunk. Writing them down will help, and you should do that as a first step, either on scratch paper or on the list itself. The second step, however, is much more important. You must associate or *link* each word with something familiar to you, something you will remember, something vivid and concrete and preferably highly personal.

For example, let's look at the word *polko* which, in our artificial language, means "elephant." The word elephant conjures up a vivid picture all by itself. Now imagine an *elephant* doing the polka. That's an image that's bound to stick in your mind.

Move on to *Zilop* which means "to jump." This is a bit harder. What you might do is pay attention to the sound of this word, to go along with an image or picture: Zip-plop, you might say to myself, at the same time imagining a clown named "Zippo" (or perhaps a silly rabbit with long floppy ears) hopping down a yellow brick road. The idea is to make the link you come up with a personal one. And don't be embarrassed by the silliness of it all. No one need know what connections you make—and the main thing is that those connections will help you remember.

The word *prill*, meaning "dream," may be even harder. But in a testing situation you have to do the best you can as fast as you can. For one person, the word *prill* might have a kind of dreamy sound, so that person should go with that. Then she should picture a guy named Bill, a dreamy kind of guy; we're walking through moonlight, holding hands . . . Or maybe you think of a *pill* that makes you dream. Neither is a perfect solution, but time is passing and you must move on to the next word.

That Horse Better Dance or You Won't Have a Chance!

There are four characteristics of a good mental image, one that will stick in your mind. Your own images should have as many of the four as you can manage in the time allowed. Let's suppose the word you have to remember is *hargtag*, meaning *horse*. As you're working on your mental image or "link," try to do one (or all) of the following:

- Make it **odd** and **personal**. The more off-the-wall and personal your image is, the more memorable it'll be. The dream (or *prill*) of dancing with a guy named Bill is an example.
- Make it **active** and **emotional**. You'll remember your images better if they're *doing* something and/or if they make you *feel* something. In the case of *hargtag*, the horse shouldn't just be standing there; it should be *moving*—say, playing tag with another horse. The scene you imagine can be humorous (like tag-playing horses or the dancing elephant), or it can be a sad or sentimental scene (a scene from *Black Beauty* if you've read that book or seen the movie), or a scene that would make you angry.
- Make it **rhyme** or **fit into a song**. Don't spend too much time on this (and don't sing out loud during the test, or they'll come and get you), but if a rhyme or song springs to mind, so much the better: *hargtag, hard nag*, for example. One reason the nursery rhymes we learn as children stick with us until we're 70 years old is that they're written in verse.
- **Write down the word**. This won't work very well by itself, any more than doggedly repeating something over and over until you get it "by heart." But if you're given scratch paper during the test, or if you're allowed to write in the book, it may help to jot down each word as you form your mental image. Scientists say that our muscles, as well as our brains, tend to "remember."

Practice Questions

Now try your hand at the following test, which is similar to the memory section of the actual COOP. At the end of the question section you'll find the answers. The first three answers will include suggested associations with the words. These are not the "right" links. The right links for you will be ones *you* make up. But they may help get your imagination-wheels turning.

The Definitions

Take 12 minutes to read, study, and commit to memory the nonsense words and their definitions. After that, either study another section or this book or go do something else, like have dinner, watch TV, or shoot some baskets. Come back after about 30 minutes and answer the questions without referring to their definitions.

1. A *ranwog* is a squirrel.
2. *Persho* is fog.
3. A *merpanon* is a calculator.
4. A *fune* is a four-sided figure.
5. *Varner* means "to sing."
6. An *ioboo* is a skateboard.
7. *Untring* means liquid.
8. *Quippy* means dangerous.
9. A *merpid* is a pencil.
10. *Jeesar* means "to write."
11. A *kape* is a fork.
12. *Marshin* means damp and cold.
13. *Unger* means "to cry."
14. *Petru* means quickly.
15. An *areeni* is a poisonous plant.
16. *Chuper* means "to hide."
17. *Zappen* means sunny.
18. A *skaar* is an oily substance.
19. *Yest* means important.
20. *Elwi* is a piece of fruit.

The Questions

Ready? Have you taken 30 minutes off? Cover up the definitions above until you're finished with the test.

Choose the word that means the same as the underlined word or phrase.

1. Which word means skateboard?

- a. merpid
- b. zappen
- c. elwi
- d. skaar
- e. ioboo

2. Which word means important?

- a. persho
- b. yest
- c. areeni
- d. ioboo
- e. merpanon

3. Which word means to sing?

- a. varner
- b. petru
- c. skaar
- d. unger
- e. jesar

4. Which word means damp and cold?

- a. ranwog
- b. quippy
- c. marshin
- d. petru
- e. zappen

5. Which word means squirrel?

- a. ranwog
- b. chuper
- c. merpid
- d. untring
- e. fune

6. Which word means dangerous?

- a. persho
- b. jesar
- c. marshin
- d. quippy
- e. zappen

7. Which word means to hide?

- a. unger
- b. skaar
- c. varner
- d. chuper
- e. ranwog

8. Which word means calculator?

- a. fune
- b. merpanon
- c. areeni
- d. elwi
- e. kape

9. Which word means an oily substance?

- a. yest
- b. unger
- c. untring
- d. merpid
- e. skaar

10. Which word means poisonous plant?

- a. persho
- b. areeni
- c. kape
- d. petru
- e. zappen

The Answers

1. e. I fell down on my skateboard and got a boo-boo.
2. b. Simply everyone says "yes" to me. I'm surrounded by "yes persons." That's because I'm so important.
3. a. I once went to a performance of "West Side Story" with a guy named Werner (pronounced "Verner" in English). In that musical, the actors sang their hearts out.
4. c.
5. a.
6. d.
7. d.
8. b.
9. e.
10. b.

Tip for Answering Memory Questions

Make an association between the nonsense word and some picture or image you can conjure up in your mind—the sillier, the better.

Chapter 11— Nonverbal Reasoning

Chapter Summary

This chapter will introduce you to the Nonverbal Reasoning section of the COOP and to the Quantitative Skills portion of the HSPT (except for the Number Manipulation questions, which are really algebra problems and are covered in Chapter 12).

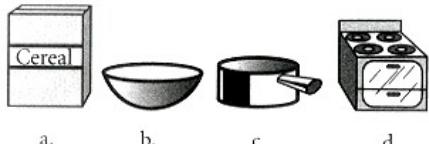
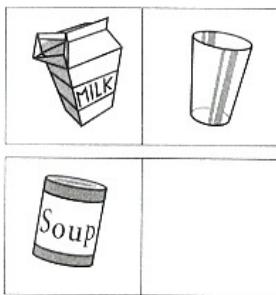
As you will see below, there is a great deal of similarity between the Nonverbal Reasoning section of the COOP and the Quantitative Skills section of the HSPT. No matter which test you will be taking, you should read this whole chapter and do all the practice questions at the end. The main thing to do is to treat the questions as puzzles, and relax and have fun solving them!

COOP Analogies

In the Analogy portion of the COOP, you will be presented with a set of two pictures that are related to each other in some way. Along with this set you'll be given a third picture and four answer choices, which are also pictures. Of the four choices, you must identify the one that would best complete the second set of pictures so that it expresses the same relationship as in the first set. Each question looks the same. An example is shown below.

Sample Question

1.

**Answer**

1. **b.** The answer is a *soup bowl*. Milk is served in a drinking glass. Soup is served in a soup bowl.

How to Prepare for Analogy Questions

There are three steps that will make you successful in answering COOP analogy questions.

1. Translate the Pictures into Words

There is essentially no difference between verbal and picture analogies, except that you have to take this extra first step of naming each picture. If you deal better with pictures than with words, you can skip this step, but make sure you understand the relationship between the first set of pictures.

2. Look for the Relationship

Analogy questions are meant to measure your ability to see relationships between concepts. The relationship between the first set of words will guide you to the relationship in the second set, so figuring out the first relationship is the most important part.

Make up a sentence that describes the relationship between the first two sets of words. In our example above, your sentence would be: *Milk is served in (or drunk from) a drinking glass*. Now use the same sentence to describe the possible relationships between the third picture and each of the answer choices.

- *Soup is served in (or eaten from) a box of cereal.* Nope. There is no relationship between soup and cereal, so move on to the next choice.
- How about *Soup is served in (or eaten from) a soup bowl?* This is almost certainly it! But just to make sure, continue on. You may find a closer relationship.
- *Soup is served in (or eaten from) a cooking pan.* There is a relationship here, but it is not, after all, exactly the same kind. *Soup bowl* is still a better choice.
- Finally, *Soup is served in (or eaten from) a cooking stove.* This does not make sense at all. So you can settle on *soup bowl* as the correct answer.

There are many different types of analogy relationships. Following are just some of the possibilities:

Use or function

Part-to-whole

Classification

Proportion or degree

Cause and effect

Similarity or difference

Strong association or connection

Proportion or degree

For examples of each of these different types of analogies, be sure to turn to Chapter 9 of this book (which deals with word analogies on the HSPT) and read the section called "How to Prepare for Analogy Questions."

Practice!

The very best way to learn how to approach analogies—whether presented as pictures or as words—is to practice. So be sure to work through ALL the analogy questions in Chapters 5, 9, and 14.

COOP Sequences

The Sequences portion of the COOP and the Number Series portion of the HSPT present test-takers with nearly identical challenges. We will start here with the COOP.

The directions for the Sequences questions on the COOP will read something like:

For Numbers 2 through 4, choose the part that would continue the pattern or sequence.

Three question types are used to measure your ability to reason with sequences on the Nonverbal Reasoning portion of the COOP:

Number Sequences

One type of Sequences questions involves a series of **numbers**, which may entail addition, subtraction, multiplication, division, and/or identification of a random number inserted in the sequence; for example: 12 24 48 9 3 6 12 9 . . . Here the first numbers are multiplied by 2, then the random number 9 is inserted, then you multiply by 2 again, and then 9 is inserted. Every fourth number is 9. Here is an example of a typical number sequence question on the COOP.

Sample Question

2. 396 | 721 18 | 10 30 __

- a. 5
- b. 20
- c. 23
- d. 27

Answer

2. d. This is an alternating sequence, requiring multiplication and subtraction. In the each set the second number is 3 times the first number. The third number is 3 less than the second number.

Letter Sequences

Another kind of Sequences question uses a series of **letters** in a pattern. Usually these questions use the letters' alphabetical order as a base. To make matters more complicated, sometimes a number will be thrown into the letter-sequences—for example: rather than A B F, there might be A₃B₂F₄. Here is an example of a typical letter sequence question on the COOP.

Sample Question

3. FHJ JLN NPR __ VXZ

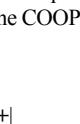
- a. RSU
- b. SUW
- c. RTV
- d. TUV

Answer

3. c. The letters in each set of three are in alphabetical order, but one letter is skipped. For example, the first set is F (skip G), H (skip I), J. The second set begins with J, which is the last letter of the

previous set. This pattern repeats. Note that this item asks you to fill in the blank and not to add to the end of the sequence. Because the last letter repeats, the set that is missing must begin with an "R." Immediately, this rules out choices **b** and **d**.

Symbol Sequences

Finally, a COOP Sequences question may use a series of nonverbal, non-number symbols in a pattern; for example:  Here is an example of a typical symbol sequence question on the COOP:

Sample Question

4. $+ x + | x + x | + x + | \underline{\hspace{1cm}}$

- a.** $x + x$
- b.** $+ x +$
- c.** $+ x$
- d.** $x +$

Answer

4. a. This is a simple alternating sequence. In the first set, the x is in the middle; in the second set, the $+$ is in the middle; and then the pattern repeats.

HSPT Number Series

Only one question type is used to measure your ability to reason with sequences on the HSPT—that is, the Number Series question type. It is quite similar to the COOP Sequences, although the way it is presented will look different. There are no overall directions for the HSPT number series questions; each question has its own directions. A couple of typical examples are shown below.

Sample Questions

5. Look at this series: 37 35 33 31 29 27 25 . . . What two numbers should come next?

- a.** 24 23
- b.** 24 22
- c.** 23 21
- d.** 22 20

Here's a more complex item of this type:

6. Look at this series: 10 12 50 15 17 50 20 . . . What two numbers should come next?

- a.** 50 21
- b.** 21 50
- c.** 50 22
- d.** 22 50

Answers

5. c. By saying the numbers silently in your head, you may begin to "hear" a rhythm that supplies the missing numbers in the sequence: "37 (36) 35 (34) 33 (32) 31 (30) 29 (28) 27 (26) 25 (24) 23 (22) 21" and so forth.

6. d. Chances are, this series is too complex to be solved simply by reading the string of numbers. So you will want to begin by looking for *repetition*. By doing this you'll see that the *random number* 50 has been introduced (10 12 **50** 15 17 **50** 20). To figure out the rest of the series, simply read the numbers "aloud," for the time being leaving the random number out. Doing so will show you that the series otherwise increases first by 2 ($10 + 2 = 12$), then by 3 ($12 + 3 = 15$), then by 2 ($15 + 2 = 17$), then by 3 again ($17 + 3 = 20$). Continuing the pattern would lead you to: 20 + 2 = 22; now re-insert the random number 50, which will bring you to: 20 (+2) **22** (R) **50**. The correct answer choice in this case is therefore **d**.

TIPS FOR ANSWERING SEQUENCES AND SERIES QUESTION

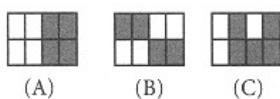
- Look carefully at the sequence—you may be lucky and spot the pattern immediately.
- If you're dealing with numbers or letters, and you don't immediately see a pattern, read the series "aloud" (that is, actually *pronounce* the numbers silently inside your head).
- If you still do not see a pattern, look at every second number, then at every third number, and see if a pattern emerges from these. Look for repeated numbers, letters, or symbols—remember, these repeated numbers may be *random numbers* that have no relationship to any of the other numbers in the series.

Geometric and Nongeometric Comparison (HSPT)

The Geometric Comparison questions and Nongeometric Comparison questions on the HSPT are very similar, and the approaches you take to them will be similar. Here is an example of each:

Sample Geometric Comparison Question

7. Examine (A), (B), and (C) and find the best answer.



- a. (A) is more shaded than (B).
- b. (B) is more shaded than (C).
- c. (C) is more shaded than (A).
- d. (A) and (C) are equally shaded.

Answer

7. c. First, look at each figure and count the number of blocks that are shaded. In (A), 4 blocks are shaded; in (B), 4 blocks are shaded; in (C), 5 blocks are shaded. Then test each answer choice to determine which one is true. Choice c is the only true statement.

Sample Nongeometric Comparison Question

8. Examine (A), (B), and (C) and find the best answer.

(A) $2(2 + 2)$

(B) $14 \div 2$

(C) $3(1+2)$

- a. (B) is greater than (A).
- b. (C) is less than (A).
- c. (B) is less than (A) but greater than (C).
- d. (C) is greater than (A) or (B).

Answer

8. d. First, determine the value of (A), (B), and (C): $2(2 + 2)$ is 8; $14 \div 2$ is 7; $3(1 + 2)$ is 9. Then test each statement to find out which one is true.

How to Answer Comparison Questions

As you can see, the form of the Geometric Comparison and Nongeometric Comparison questions is the same. The steps to take in answering both types are also the same.

- Take these questions in *steps*, carefully, one step at a time. Otherwise you'll get confused.
- First work out each of the problems (A) (B) (C) separately.
- If you work each problem correctly, you can easily rule out incorrect answer choices.

Practice Questions

For practice, do this mini-test. Be sure to carefully read the answer explanations that follow it. All the kinds of questions covered in this chapter are included here. You could just do the ones that appear on your test, but why not do them all? After all, the logic is the same for all these nonverbal reasoning questions.

9. EF₁G₂ HI₂J₃ KL₃M₄ NO₄P₅ _____

- a. QR₅S₆
- b. QR₆S₇
- c. R₅S₆T
- d. PQ₅R₆

10. Look at this series: 78,71,64,57, . . . What number should come next?

- a. 43
- b. 47
- c. 48
- d. 50

11. Look at this series: 10, 5, 20, 10, 40, . . . What number should come next?

- a. 10
- b. 12
- c. 20
- d. 80

12. Look at this series: II, III, V, VIII, XII, . . . What number should come next?

- a. XVII
- b. XX
- c. XIV
- d. XXII

13. 816, 408, _____ 102, 51. What number should fill the blank in the MIDDLE of the series?

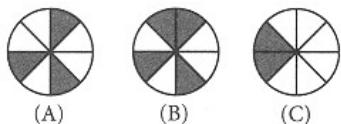
- a. 26
- b. 204
- c. 214
- d. 306

14. Examine (A), (B), (C), and (D) and find the best answer.

- (A) _____
 (B) _____
 (C) _____
 (D) _____

- a. (A) is longer than (D).
- b. (B) and (D) are the same length.
- c. (A) is shorter than (B) but longer than (D).
- d. (A) plus (D) is longer than (C).

15. Examine (A), (B), and (C) and find the best answer.



- a. (A) and (C) are equally shaded.
- b. (A) is more shaded than (B) but less shaded than (C).
- c. (A) is less shaded than (B) but more shaded than (C).
- d. Of the three, (A) is the least shaded.

16. Examine (A), (B), and (C) and find the best answer.

$\times \times \times \times$	$\times \times$	$\times \times$
$\times \times \times$	$\times \times \times \times \times$	$\times \times$
$\times \times$		$\times \times \times \times$
\times		$\times \quad \times \times$
(A)	(B)	(C)

- a. (A) and (C) have an equal number of x's.

- b. (C) has one more x than (A) has.

- c. (A) plus (B) equals (C).

- d. (A) plus (B) minus (C) equals 5.

17. Examine (A), (B), and (C) and find the best answer.

(A) $1/3$ of 123

(B) $8^2 - 23$

(C) $9(9) - 40$

- a. (A), (B), and (C) are all equal.

- b. (A) plus (B) equals (C).

- c. (A) and (C) are equal, but (B) is less than both (A) or (C).

- d. (C) is one more than (A).

18. Examine (A), (B), and (C) and find the best answer.

(A) 5% of 45

(B) $1/6$ of 12

(C) 10% of 22

- a. (A) and (C) are equal.

- b. (A) is less than (B).

- c. (C) is less than (A).

- d. (C) is greater than (A).

Answers

9. a. There are two sequences here. The letter sequence is a simple alphabetical order. The number sequence is as follows: 1,2,2,3,3,4,4,5,5,6. Choices **c** and **d** can easily be ruled out because they do not fit the letter sequence. Choice **b** does not fit the number sequence.

10. d. This is a simple subtraction series. Each number is 7 less than the preceding number.

11. c. This is an alternating series. The first series is 10, 20, 40; each number is twice the preceding number. The second series is 5, 10, 20; again, each number is twice the preceding number.

12. a. Take some time before the test to brush up on your knowledge of Roman numerals. This is a simple addition series, but if you cannot read the numbers, you will not be able to understand the series. If the series were in Arabic numbers, it would read: 2,3,5,8,12. As you can see, one more number is added as the series progresses: 2 plus **1** is 3, 3 plus **2** is 5, 5 plus **3** is 8, 8 plus **4** is 12, 12 plus **5** is 17.

13. b. Note that this item asks you to fill in the blank in the *middle* of the series. This is a simple division series; each number is divided by 2.

14. d. First, look carefully at each line. Then test each statement to determine which one is true.

15. c. First, count the shaded pieces of the pie. Then test each answer choice to find the correct one.

16. b. First, count the number of x's. (A) has 10; (B) has 7; (C) has 11. Now, test each answer choice to find out which one is true.

17. a. First, determined the value of (A), (B), and (C): $1/3$ of 123 is 41; $8^2 - 23$ also equals 41; $9(9) - 40$ is also 41. It is now easy to see that answer choice **a** is the only possible choice.

18. c. First, find values for (A), (B), and (C): 5% of 45 is 2.25; $1/6$ of 12 is 2; 10% of 22 is 2.2. Then test each answer choice to find out which one is true.

Chapter 12— Math Skills

Chapter Summary

This chapter reviews the math you need to know for the Catholic High School Entrance Exams—both COOP and HSPT—and provides a list of books for additional help in math.

If you've already taken one practice exam in this book, you probably know how much you need to improve your math skills to get a passing grade. The next step is to buckle down and start studying the math that doesn't come easy to you. That's where this chapter will help. Section by section, all the different types of math that are on the test are explained. If there are some concepts you just can't seem to understand—whether they be square roots, exponents, or fractions—you might want to do a more thorough study. At the end of this chapter, you'll find a list of math books that you can either buy or take out of the library to help you gain an understanding of the math that gives you trouble.

Word Problems	page 2
Number Names	page 4
Fraction Review	page 6
Decimals	page 15
Percents	page 20
Averages	page 25
Length, Weight, and Time Units	page 26
Algebra	page 28
Perimeter, Area, and the Pythagorean Theorem	page 43
More Help with Math	page 52

Word Problems

Some of the math problems on the test are word problems. A word problem can include any kind of math, including simple arithmetic, fractions, decimals, percentages, even algebra and geometry.

The hardest part of any word problem is translating English into math. When you read a problem, you can frequently translate it *word for word* from English statements into mathematical statements. At other times, however, a key word in the word problem hints at the mathematical operation to be performed. Here are the translation rules:

EQUALS key words: is, are, has

English	Math
Bob is 18 years old.	$B=18$
There are 7 nurses.	$N=7$
This suborder has 5 families.	$F=5$

ADDITION key words: sum; more, greater, or older than; total; altogether

English	Math
The sum of two numbers is 10.	$X+Y=10$
Karen has \$5 more than Sam.	$K=5+S$
The base is 3" greater than the height.	$B=3+H$
Judi is 2 years older than Tony.	$J=2+T$
The total of three numbers is 25.	$A+B+C=25$
How much do Joan and Tom have altogether ?	$J+T=?$

SUBTRACTION key words: difference; less, fewer, or younger than; remain; left over

English	Math
The difference between two numbers is 17.	$X-Y=17$
Mike has 5 fewer cats than twice the number Jan has.	$M=2J-5$

Jay is 2 years **younger than** Brett. J=B-2

After Carol ate 3 apples, how many apples **remained?** R=A-3

MULTIPLICATION key words: **of, product, times**

English *Math*

20% **of** the samples 0.20 S

Half **of** the bacteria 1/2 B

The **product** of two numbers is 12. A B=12

DIVISION key words: **per, half, divide, quotient, is divided by**

English *Math*

22 miles **per** gallon miles/22=gallons

2 is **divided** by 5 2/5

one-**half** of 8 8/2

Solving a Word Problem Using the Translation Table

Let's try to solve the following problem using our translation rules.

Juan ate $\frac{1}{3}$ of the jellybeans. Maria then ate $\frac{3}{4}$ of the remaining jellybeans, which left 10 jellybeans. How many jellybeans were there to begin with?

- a. 60 b. 80 c. 90 d. 120 e. 140

Assume Juan started with J jellybeans. Eating $\frac{1}{3}$ **of** them means eating $\frac{1}{3} J$ jellybeans. Maria ate a fraction of the **remaining** jellybeans, which means we must **subtract** to find out how many are left: $J - \frac{1}{3} J$. Maria then ate $\frac{3}{4}$, leaving $\frac{1}{4}$ **of** the $\frac{2}{3} J$ jellybeans, or $\frac{1}{4} \cdot \frac{2}{3} J$ jellybeans. Multiplying out $\frac{1}{4} \cdot \frac{2}{3} J$ gives $\frac{1}{6}J$ as the number of jellybeans left. The problem states that there were **10 jellybeans left**, meaning that we set $\frac{1}{6} J$ **equal to** 10:

$$\frac{1}{6} \times J = 10$$

Solving this equation for J gives **J=60**. Thus, the right answer is **a**.

Practice Word Problems

You will find word problems using fractions, decimals, and percentages in those sections of this chapter. For now, practice using the translation table on problems that just require you to work with basic arithmetic. Answers are at the end of the chapter.

- _____ 1. Joan went shopping with \$100 and returned home with only \$18.42.
How much money did she spend?

- b. \$72.68 c. \$72.58 d. \$71.68 e. \$71.58

2. Each of five tutors at the math tutoring center works six hours per day. Each tutor can work with three students per hour. In total, how many students can be seen each day at the center?

a. 18 b. 30 c. 60 d. 75 e. 90

3. The office secretary can type 80 words per minute on his word processor. How many minutes will it take him to type a report containing 760 words?

a. 8 b. 8 1/2 c. 9 d. 9 1/2 e. 10

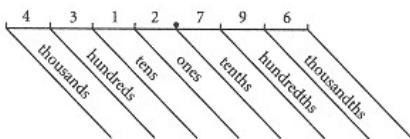
4. Principal Wallace is writing a budget request to upgrade his personal computer system. He wants to purchase 4mb of RAM, which will cost \$100, two new software programs at \$350 each, a tape backup system for \$249, and an additional tape for \$25. What is the total amount Principal Wallace should write on his budget request?

a. \$724 b. \$974 c. \$1,049 d. \$1,064 e. \$1,074

Number Names

There's bound to be at least one question on the math test that asks you to give numbers for words, or vice versa. This can mean easy points for you if you learn a few place names.

Numbers are made up of digits that each represent different values according to their position in the number. For instance, in the number 4,312.796, the 2 is in the *ones* place and equals 2 units. The 1 is in the *tens* place and equals 1 ten (10). The 3 is in the *hundreds* place and equals 3 hundreds (300). The 4 in the *thousands* place equals 4 thousands (4,000). To the right of the decimal, the 7 is in the *tenths* place and equals seven tenths (0.7 or 7/10). The 9 is in the *hundredths* place and equals 9 hundredths (0.09 or 9/100). The 6 is in the *thousandths* place and equals 6 thousandths (0.006 or 6/1000).



Example: Write, in numerals, "one thousand forty-nine."

1. Notice first that there is no *hundred* included in the number name. _____,0_____
Therefore, a zero will go in the hundreds place:

2. Put down a 1 in the thousands place for *one thousand*: 1,0_____

3. And 49 for *forty-nine*: 1,049

A question also may ask you to work the other way, from numerals to words.

Example: Write, in words, 5,678.

1. 5 is in the thousands place: *five thousand*
2. 6 is in the hundreds place: *five thousand six hundred*
3. 7 is in the tens place: *five thousand six hundred seventy*
4. And 8 is in the ones place: *five thousand six hundred seventy-eight*

Glossary of Terms

Denominator

The bottom number in a fraction. Example: 2 is the denominator in $1/2$.

Difference

Subtract. The difference of 2 numbers means subtract one number from the other.

Divisible by

A number is divisible by a second number if that second number divides *evenly* into the original number. Example: 10 is divisible by 5 ($10 \div 5 = 2$, with no remainder). However, 10 is not divisible by 3. (See *multiple of*)

Even Integer

Integers that are divisible by 2, like . . . -4, -2, 0, 2, 4 . . . (See *integer*)

Integer

Numbers along the number line, like . . . -3, -2, -1, 0, 1, 2, 3 . . . Integers include the whole numbers and their opposites. (See *whole number*)

Multiple of

A number is a multiple of a second number if that second number can be multiplied by an integer to get the original number. Example: 10 is a multiple of 5 ($10 = 5 \cdot 2$); however, 10 is not a multiple of 3. (See *divisible by*)

Negative Number

A number that is less than zero, like -1, -18.6, -3/4.

Numerator

The top part of a fraction. Example: 1 is the numerator of $1/2$.

Odd Integer

Integers that aren't divisible by 2, like . . . -5, -3, -1, 1, 3 . . .

Positive Number

A number that is greater than zero, like 2, 42, $1/2$, 4.63.

Prime Number

Integers that are divisible only by 1 and themselves, like 2, 3, 5, 7, 11 . . . All prime numbers are odd, except for 2. The number 1 is not considered prime.

Product

Multiply. The product of 2 numbers means the numbers are multiplied together.

Quotient

The answer you get when you divide. Example: 10 divided by 5 is 2; the quotient is 2.

Real Number

All the numbers you can think of, like 17, -5, $1/2$, -23.6, 3.4329, 0. Real numbers include the integers, fractions, and decimals. (See *integer*)

Remainder

The number left over after division. Example: 11 divided by 2 is 5, with a remainder of 1.

Sum

Add. The sum of 2 numbers means the numbers are added together.

Whole Number

Numbers you can count on your fingers, like 1, 2, 3 . . . All whole numbers are positive. Zero is also a whole number.

Try a few problems on your own. Answers are at the end of this chapter.

5. Write in numerals: "eight thousand seven hundred fifty-five"

6. Write in numerals: "two hundred one"

7. Write in words: 710

8. Write in words: 9,186

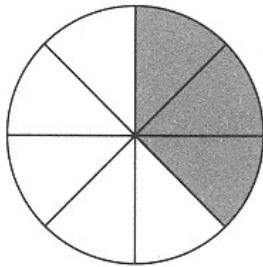
Fraction Review

Problems involving fractions may be straightforward calculation questions, or they may be word problems. Typically, they ask you to add, subtract, multiply, divide, or compare fractions.

Working with Fractions

A fraction is a part of something.

Example: Let's say that a pizza was cut into 8 equal slices and you ate 3 of them. The fraction $\frac{3}{8}$ tells you what part of the pizza you ate. The pizza below shows this: 3 of the 8 pieces (the ones you ate) are shaded.



Three Kinds of Fractions

Proper fraction: The top number is less than the bottom number:

$$\frac{1}{2}; \frac{2}{3}; \frac{4}{9}; \frac{8}{13}$$

The value of a proper fraction is less than 1.

Improper fraction: The top number is greater than or equal to the bottom number:

$$\frac{3}{2}; \frac{5}{3}; \frac{14}{9}; \frac{12}{12}$$

The value of an improper fraction is 1 or more.

Mixed number: A fraction written to the right of a whole number:

$$3\frac{1}{2}; 4\frac{2}{3}; 12\frac{3}{4}; 24\frac{3}{4}$$

The value of a mixed number is more than 1: it is the sum of the whole number plus the fraction.

Changing Improper Fractions into Mixed or Whole Numbers

It's easier to add and subtract fractions that are mixed numbers rather than improper fractions. To change an improper fraction, say 13/2, into a mixed number, follow these steps:

1. Divide the bottom number (2) into the top number (13) to get the whole number portion (6) of the mixed number:

$$\begin{array}{r} 6 \\ 2 \overline{) 13} \\ 12 \\ \hline 1 \end{array}$$

2. Write the remainder of the division (1) over the old bottom number (2): $6 \frac{1}{2}$

3. Check: Change the mixed number back into an improper fraction (see steps below).

Changing Mixed Numbers into Improper Fractions

It's easier to multiply and divide fractions when you're working with improper fractions rather than mixed numbers. To change a mixed number, say 2 3/4, into an improper fraction, follow these steps:

1. Multiply the whole number (2) by the bottom number (4). $2 \cdot 4 = 8$

2. Add the result (8) to the top number (3). $8 + 3 = 11$.

3. Put the total (11) over the bottom number (4). $11/4$

4. Check: Reverse the process by changing the improper fraction into a mixed number. If you get back the number you started with, your answer is right.

Reducing Fractions

Reducing a fraction means writing it in *lowest terms*, that is, with smaller numbers. For instance, 50¢ is 50/100 of a dollar, or 1/2 of a dollar. In fact, if you have 50¢ in your pocket, you say that you have half a dollar. Reducing a fraction does not change its value.

Follow these steps to reduce a fraction:

1. Find a whole number that divides *evenly* into both numbers that make up the fraction.
2. Divide that number into the top of the fraction, and replace the top of the fraction with the quotient (the answer you got when you divided).
3. Do the same thing to the bottom number.
4. Repeat the first 3 steps until you can't find a number that divides evenly into both numbers of the fraction.

For example, let's reduce 8/24. We could do it in 2 steps: $\frac{8 \div 8}{24 \div 8} = \frac{1}{3}$

Shortcut: When the top and bottom numbers both end in zeroes, cross out the same number of zeroes in both numbers to begin the reducing process. For example, 300/4000 reduces to 3/40 when you cross out 2 zeroes in both numbers.

Whenever you do arithmetic with fractions, reduce your answer. On a multiple-choice test, don't panic if your answer isn't listed. Try to reduce it and then compare it to the choices.

Reduce these fractions to lowest terms. Answers are at the end of the chapter.

9. $\frac{3}{12}$

10. $\frac{14}{35}$

11. $\frac{27}{72}$

Raising Fractions to Higher Terms

Before you can add and subtract fractions, you have to know how to raise a fraction to higher terms. This is actually the opposite of reducing a fraction.

Follow these steps to raise $\frac{2}{3}$ to 24ths:

1. Divide the old bottom number (3) into the new one (24): $3 \overline{)24} = 8$

2. Multiply both the top and bottom number by 8: $\frac{2 \times 8}{3 \times 8} = \frac{16}{24}$

3. Check: Reduce the new fraction to see if you get back the original one: $\frac{16 \div 8}{24 \div 8} = \frac{2}{3}$

Raise these fractions to higher terms:

12. $\frac{5}{12} = \frac{\underline{\hspace{2cm}}}{\underline{\hspace{2cm}}}$

13. $\frac{2}{9} = \frac{\underline{\hspace{2cm}}}{\underline{\hspace{2cm}}}$

14. $\frac{2}{5} = \frac{\underline{\hspace{2cm}}}{\underline{\hspace{2cm}}}$

Adding Fractions

If the fractions have the same bottom numbers, just add the top numbers together and write the total over the bottom number.

Examples: $\frac{2}{9} + \frac{4}{9} = \frac{2+4}{9} = \frac{6}{9}$ Reduce the sum: $2/3$

$5/8+7/8=12/8$ Change the sum to a mixed number: $1 \frac{4}{8}$; then reduce: $1 \frac{1}{2}$

There are a few extra steps to add mixed numbers with the same bottom numbers, say $2 \frac{3}{5}+1 \frac{4}{5}$:

1. Add the whole numbers: $2+1=3$

2. Add the fractions: $3/5+4/5=7/5$

3. Change the improper fraction into a mixed number: $7/5=1 \frac{2}{5}$

4. Add the results of steps 1 and 3: $1 \frac{2}{5}+3=4 \frac{2}{5}$

Finding the Least Common Denominator

If the fractions you want to add don't have the same bottom number, you'll have to raise some or all of the fractions to higher terms so that they all have the same bottom number, called the **common denominator**. All of the original bottom numbers divide evenly into the common denominator. If it is the smallest number that they all divide evenly into, it is called the **least common denominator (LCD)**.

Here are a few tips for finding the LCD, the smallest number that all the bottom numbers evenly divide into:

- See if all the bottom numbers divide evenly into the biggest bottom number.
- Check out the multiplication table of the largest bottom number until you find a number that all the other bottom numbers evenly divide into.
- When all else fails, multiply all the bottom numbers together.

Example: $\frac{2}{3} + \frac{4}{5}$

1. Find the LCD. Multiply the bottom numbers: $3 \times 5 = 15$

2. Raise each fraction to 15ths: $\frac{2 \times 5}{3 \times 5} = \frac{10}{15}$

$$\begin{array}{r} + \frac{4 \times 3}{5 \times 3} = \frac{12}{15} \\ \hline & \frac{22}{15} \end{array}$$

3. Add as usual: $\frac{22}{15}$

Try these addition problems:

_____ 15. $\frac{3}{4} + \frac{1}{6}$

_____ 16. $\frac{7}{8} + \frac{2}{3} + \frac{3}{4}$

_____ 17. $4\frac{1}{3} + 2\frac{3}{4} + \frac{1}{6}$

Subtracting Fractions

If the fractions have the same bottom numbers, just subtract the top numbers and write the difference over the bottom number.

Example: $\frac{4}{9} - \frac{3}{9} = \frac{4-3}{9} = \frac{1}{9}$

If the fractions you want to subtract don't have the same bottom number, you'll have to raise some or all of the fractions to higher terms so that they all have the same bottom number, or LCD. If you forgot how to find the LCD, just read the section on adding fractions with different bottom numbers.

Example: $5/6 - 3/4$

1. Raise each fraction to 12ths because 12 is the LCD, the smallest number that 6 and 4 both divide into evenly:

$$\begin{array}{r}
 \frac{5 \times 2}{6 \times 2} = \frac{10}{12} \\
 - \frac{3 \times 3}{4 \times 3} = \frac{9}{12} \\
 \hline
 & \frac{1}{12}
 \end{array}$$

- 2.** Subtract as usual:

Subtracting mixed numbers with the same bottom number is similar to adding mixed numbers.

Example: $4\frac{3}{5} - 1\frac{2}{5}$

1. Subtract the fractions: $3/5 - 2/5 = 1/5$
 2. Subtract the whole numbers: $4 - 1 = 3$
 3. Add the results of steps 1 and 2: $1/5 + 3 = 3 \frac{1}{5}$

Sometimes there is an extra "borrowing" step when you subtract mixed numbers with the same bottom numbers, say $7\frac{3}{5} - 2\frac{4}{5}$:

1. You can't subtract the fractions the way they are because $\frac{4}{5}$ is bigger than $\frac{3}{5}$. So $7\frac{3}{5} = 6\frac{5}{5} + \frac{3}{5}$ you borrow 1 from the 7, making it 6, and change that 1 to $\frac{5}{5}$ because 5 is the bottom number:

- | | |
|--|--|
| 2. Add the numbers from step 1: | $6\frac{5}{5} + 3\frac{5}{5} = 6\frac{8}{5}$ |
| 3. Now you have a different version of the original problem: | $6\frac{8}{5} - 2\frac{4}{5}$ |
| 4. Subtract the fractional parts of the two mixed numbers: | $\frac{8}{5} - \frac{4}{5} = \frac{4}{5}$ |
| 5. Subtract the whole number parts of the two mixed numbers: | $6 - 2 = 4$ |
| 6. Add the results of the last 2 steps together: | $4 + \frac{4}{5} = 4\frac{4}{5}$ |

Try these subtraction problems. Answers are at the end of the chapter.

18. 4/5-2/3

19. 7/8-1/4-1/2

20. 4 1/3-2 3/4

Now let's put what you've learned about adding and subtracting fractions to work in some real-life problems.

21. Alan drove $3\frac{1}{2}$ miles to school to register for classes. Then he drove $4\frac{3}{4}$ miles to football practice. When practice was over, he drove 2 miles to meet his friends for lunch. Then he drove $3\frac{2}{3}$ miles back to school for a student council meeting. Finally, he drove $3\frac{1}{2}$ miles home. How many miles did he travel in total?

- a. $17 \frac{5}{12}$ b. $16 \frac{5}{12}$ c. $15 \frac{7}{12}$ d. $15 \frac{5}{12}$ e. $13 \frac{11}{12}$

- _____ 22. Before leaving the garage, the bus driver noted that the mileage gauge on school bus 2 registered 4,357 4/5 miles. When he arrived at the first stop on his route, the mileage gauge then registered 4,400 1/10 miles. How many miles did he drive from the garage to his first stop?

a. 42 3/10 b. 42 7/10 c. 43 7/10 d. 47 2/10 e. 57 3/10

Multiplying Fractions

Multiplying fractions is actually easier than adding them. All you do is multiply the top numbers and then multiply the bottom numbers.

Examples: $\frac{2}{3} \times \frac{5}{7} = \frac{2 \times 5}{3 \times 7} = \frac{10}{21}$ $\frac{1}{2} \times \frac{3}{5} \times \frac{7}{4} = \frac{1 \times 3 \times 7}{2 \times 5 \times 4} = \frac{21}{40}$

Sometimes you can *cancel* before multiplying. Cancelling is a shortcut that makes the multiplication go faster because you're multiplying with smaller numbers. It's very similar to reducing: if there is a number that divides evenly into a top number and bottom number, do that division before multiplying. If you forget to cancel, you'll still get the right answer, but you'll have to reduce it.

Example: $\frac{5}{6} \times \frac{9}{20}$

1. Cancel the 6 and the 9 by dividing 3 into both of them: $6 \div 3 = 2$ and $9 \div 3 = 3$.
Cross out the 6 and the 9.

$$\frac{5}{\cancel{6}} \times \frac{\cancel{9}^3}{20}$$

2. Cancel the 5 and the 20 by dividing 5 into both of them: $5 \div 5 = 1$ and $20 \div 5 = 4$.
Cross out the 5 and the 20.

$$\frac{1}{\cancel{5}} \times \frac{\cancel{20}^4}{4}$$

3. Multiply across the new top numbers and the new bottom numbers:
$$\frac{1 \times 3}{2 \times 4} = \frac{3}{8}$$

Try these multiplication problems. Answers are at the end of the chapter.

_____ 23. $\frac{1}{5} \times \frac{2}{3}$

_____ 24. $\frac{2}{3} \times \frac{4}{7} \times \frac{3}{5}$

_____ 25. $\frac{3}{4} \times \frac{8}{9}$

To multiply a fraction by a whole number, first rewrite the whole number as a fraction with a bottom number of 1:

Example: $5 \times \frac{2}{3} = 5/1 \times 2/3 = 10/3$ (Optional: convert 10/3 to a mixed number: 3 1/3)

To multiply with mixed numbers, it's easier to change them to improper fractions before multiplying.

Example: $4 \frac{2}{3} \times 5 \frac{1}{2}$

1. Convert $4 \frac{2}{3}$ to an improper fraction:
$$4 \frac{2}{3} = \frac{4 \times 3 + 2}{3} = \frac{14}{3}$$

2. Convert $5 \frac{1}{2}$ to an improper fraction:
$$5 \frac{1}{2} = \frac{5 \times 2 + 1}{2} = \frac{11}{2}$$

3. Cancel and multiply the fractions:

$$\frac{7}{3} \times \frac{11}{\cancel{2}} = \frac{77}{3}$$

4. Optional: convert the improper fraction to a mixed number: $77/3=25\frac{2}{3}$

Now try these multiplication problems with mixed numbers and whole numbers. Answers are at the end of the chapter.

26. $4\frac{1}{3} \cdot 2\frac{2}{5}$

27. $2\frac{1}{2} \cdot 6$

28. $3\frac{3}{4} \cdot 4\frac{2}{5}$

Here are a few more real-life problems to test your skills:

29. After driving $\frac{2}{3}$ of the 15 miles to work, Dr. Stone received an emergency call from the hospital. How many miles had he driven when he got the call?

a. 5

b. $7\frac{1}{2}$

c. 10

d. 12

e. $15\frac{2}{3}$

30. If Henry spent $\frac{3}{4}$ a 40-hour week learning to use new graphic design software, how many hours did he spend in training?

a. $7\frac{1}{2}$

b. 10

c. 20

d. 25

e. 30

31. Technician Chin makes \$14.00 an hour. When she works more than 8 hours a day, she gets over-time pay of $\frac{1}{2}$ times her regular hourly wage for the extra hours. How much did she earn for working 11 hours in one day?

a. \$77

b. \$154

c. \$175

d. \$210

e. \$231

Dividing Fractions

To divide one fraction by a second fraction, invert the second fraction (that is, flip the top and bottom numbers) and then multiply. That's all there is to it!

Example: $1/2 \div 3/5$

1. Invert the second fraction ($3/5$): $5/3$

2. Change the division sign (\div) to a multiplication sign (\times)

3. Multiply the first fraction by the new second fraction: $\frac{1}{2} \times \frac{5}{3} = \frac{1 \times 5}{2 \times 3} = \frac{5}{6}$

To divide a fraction by a whole number, first change the whole number to a fraction by putting it over 1. Then follow the division steps above.

Example: $\frac{3}{5} \div 2 = \frac{3}{5} \div \frac{2}{1} = \frac{3}{5} \times \frac{1}{2} = \frac{3 \times 1}{5 \times 2} = \frac{3}{10}$

When the division problem has a mixed number, convert it to an improper fraction and then divide as usual.

Example: $2\frac{3}{4} \div 1\frac{1}{6}$

1. Convert $2\frac{3}{4}$ to an improper fraction:

$$2\frac{3}{4} = \frac{2 \times 4 + 3}{4} = \frac{11}{4}$$

2. Divide $\frac{11}{4}$ by $1\frac{1}{6}$:

$$\frac{11}{4} \div \frac{1}{6} = \frac{11}{4} \times \frac{6}{1}$$

3. Flip $1\frac{1}{6}$ to $6\frac{1}{1}$, change \div to \times , cancel and multiply:

$$\frac{11}{4} \times \frac{6}{1} = \frac{11 \times 3}{2 \times 1} = \frac{33}{2}$$

Here are a few division problems to try:

_____ 32. $\frac{1}{3} \div \frac{2}{3}$

_____ 33. $2\frac{3}{4} \div 1\frac{1}{2}$

_____ 34. $\frac{3}{5} \div 3$

_____ 35. $3\frac{3}{4} \div 2\frac{1}{3}$

Let's wrap this up with some real-life problems.

_____ 36. If Dr. McCarthy's four assistants evenly divided $6\frac{1}{2}$ pounds of candy, how many pounds of candy did each assistant get?

a. $\frac{8}{13}$

b. $1\frac{5}{8}$

c. $1\frac{1}{2}$

d. $1\frac{5}{13}$

e. 4

_____ 37. How many $2\frac{1}{2}$ -pound chunks of cheese can be cut from a single 20-pound piece of cheese?

a. 2

b. 4

c. 6

d. 8

e. 10

_____ 38. Ms. Goldbaum earned \$36.75 for working $3\frac{1}{2}$ hours. What was her hourly wage?

a. \$10.00

b. \$10.50

c. \$10.75

d. \$12.00

e. \$12.25

Comparing Fractions

It's likely that the math test will include a question or two on comparing fractions. When the denominators or numerators of the fractions are the same, comparing is fairly easy. When neither are the same, there's an extra step involved.

Same Denominators

It is easy to see which of two fractions is larger if they have the same denominator.

Example: Which is larger, 2/5 or 3/5?

In other words, if you had a pie that was divided into 5 pieces (the bottom number tells how many pieces the pie is divided into), would you have more pie if you had 2 of the 5 pieces or 3 of the 5 pieces?

3/5 is larger than 2/5

Same Numerators

Likewise, it is easy to determine which fraction is larger if the numerators are the same.

Example: Which is smaller, 3/5 or 3/7?

In other words, would you rather have 3 pieces from a pie that was divided into 5 pieces or from a pie that was divided into 7 pieces? The pie with 7 pieces would have smaller pieces than the pie divided into 5 pieces.

3/7 is smaller than 3/5

Different Denominators and Numerators

If the two fractions being compared do not have the same denominator or the same numerator, it is more difficult to tell which is larger. In this case, it is best to change the original fractions to equivalent fractions with the same denominators.

Example: Which is larger: 2/5 or 3/7?

1. Find a common multiple of 5 and 7: 35

2. Raise both fractions so that they have a bottom number of 35:

$$\begin{aligned}\frac{2}{5} &= \frac{2 \times 7}{5 \times 7} = \frac{14}{35} \\ \frac{3}{7} &= \frac{3 \times 5}{7 \times 5} = \frac{15}{35}\end{aligned}$$

3. Now you can compare the size of the fractions by looking at the numerators. 15 is larger than 14, so 3/7 is larger than 2/5.

Here are a couple problems for you to try. Answers are at the end of the chapter.

39. Which of the following fractions is the smallest?

- a.** 1/4 **b.** 2/9 **c.** 3/8 **d.** 3/16 **e.** 4/16

40. Which of the following fractions is the largest?

- a.** 7/12 **b.** 7/10 **c.** 8/10 **d.** 3/6 **e.** 3/4

Decimals

What Is a Decimal?

A decimal is a special kind of fraction. You use decimals every day when you deal with money—\$10.35 is a decimal that represents 10 dollars and 35 cents. The decimal point separates the dollars from the cents. Because there are 100 cents in one dollar, 1¢ is 1/100 of a dollar, or \$.01.

Each decimal digit to the right of the decimal point has a name:

- Example:**
- .1=1 tenth = 1/10
 - .02=2 hundredths=2/100
 - .003=3 thousandths=3/1000
 - .0004=4 ten-thousandths=4/10,000

When you add zeroes after the rightmost decimal place, you don't change the value of the decimal. For example, 6.17 is the same as all of these:

6.170

6.1700

6.170000000000000000

If there are digits on both sides of the decimal point (like 10.35), the number is called a mixed decimal. If there are digits only to the right of the decimal point (like .53), the number is called a decimal. A whole number (like 15) is understood to have a decimal point at its right (15.). Thus, 15 is the same as 15.0, 15.00, 15.000, and so on.

Changing Fractions to Decimals

To change a fraction to a decimal, divide the bottom number into the top number after you put a decimal point and a few zeroes on the right of the top number. When you divide, bring the decimal point up into your answer.

- Example:** Change 3/4 to a decimal.

1. Add a decimal point and 2 zeroes to the top number (3): 3.00

2. Divide the bottom number (4) into 3.00:

$$\begin{array}{r} .75 \\ 4 \overline{)3.00} \\ \underline{28} \\ 20 \\ \underline{0} \end{array}$$

Bring the decimal point up into the answer:

.75

3. The quotient (result of the division) is the answer:

Some fractions may require you to add many decimal zeroes in order for the division to come out evenly. In fact, when you convert a fraction like 2/3 to a decimal, you can keep adding decimal zeroes to the top number forever because the division will never come out evenly! As you divide 3 into 2, you'll keep getting 6's:

$$2 \div 3 = .666666666 \text{ etc}$$

This is called a *repeating decimal* and it can be written as $6\bar{6}$ or as .66 2/3. You can approximate it as .67, .667, .6667, and so on.

Changing Decimals to Fractions

To change a decimal to a fraction, write the digits of the decimal as the top number of a fraction and write the decimal's name as the bottom number of the fraction. Then reduce the fraction, if possible.

Example: .018

1. Write 18 as the top of the fraction: 18

2. Three places to the right of the decimal means *thousandths*, so write 1000 as the bottom number: 18/1000

3. Reduce by dividing 2 into the top and bottom numbers: $\frac{18 \div 2}{1000 \div 2} = \frac{9}{500}$

Change these decimals or mixed decimals to fractions. Answers are at the end of the chapter.

_____ 41. 0.005

_____ 42. 3.48

_____ 43. 123.456

Comparing Decimals

Because decimals are easier to compare when they have the same number of digits after the decimal point, tack zeroes onto the end of the shorter decimals. Then all you have to do is compare the numbers as if the decimal points weren't there:

Example: Compare .08
and .1

1. Tack one zero at the end of .1: .10

2. To compare .10 to .08, just compare 10 to 8.

3. Since 10 is larger than 8, .1 is larger than .08.

Adding and Subtracting Decimals

To add or subtract decimals, line them up so their decimal points are even. You may want to tack on zeroes at the end of shorter decimals so you can keep all your digits lined up evenly. Remember, if a number doesn't have a decimal point, then put one at the right end of the number.

Example: 1.23+57+.038

1. Line up the numbers like this: 1.230

57.000

+038

2. Add: 58.268

Example: 1.23-.038

1. Line up the numbers like this:

1.230

-.038

2. Subtract:

1.192

Try these addition and subtraction problems:

_____ 44. $0.905 + 0.02 + 3.075$

_____ 45. $0.005 + 8 + 0.3$

_____ 46. $3.48 - 2.573$

_____ 47. $123.456 - 122$

_____ 48. James Peterson drove 3.7 miles to his local sports club. He then walked 1.6 miles on the treadmill to strengthen his legs. He got back into the car, drove 2.75 miles to his favorite juice bar and then drove 2 miles back home. How many miles did he drive in total?

- a. 8.05 b. 8.45 c. 8.8 d. 10 e. 10.05

_____ 49. The average number of emergency room visits at City Hospital fell from 486.4 per week to 402.5 per week. By how many emergency room visits per week did the average fall?

- a. 73.9 b. 83 c. 83.1 d. 83.9 e. 84.9

Multiplying Decimals

To multiply decimals, ignore the decimal points and just multiply the numbers. Then count the total number of decimal digits (the digits to the *right* of the decimal point) in the numbers you're multiplying. Count off that number of digits in your answer beginning at the right side and put the decimal point to the *left* of those digits.

Example: 215.7 2.4

1. Multiply 2157 times 24:

2157

24

8628

4314

51768

2. Because there are a total of 2 decimal digits in 215.7 and 2.4, count off 2 places from the right in 51768, placing the decimal point to the *left* of the last 2 digits:

517.68

If your answer doesn't have enough digits, tack zeroes on to the left of the answer.

Example: .03 .006

1. Multiply 3 times 6: $3 \times 6 = 18$
 2. You need 5 decimal digits in your answer, so tack on 3 zeroes: 00018
 3. Put the decimal point at the front of the number (which is 5 digits in from the right): 0.00018

You can practice multiplying decimals with these. Answers are at the end of the chapter.

50. 0.05 0.6

51.0053 6.4

52. 38.1 0.0184

53. Joe earns \$14.50 per hour as a painting instructor. Last week he worked 37.5 hours. How much money did he earn that week?

- a. \$518.00 b. \$518.50 c. \$525.00 d. \$536.50 e. \$543.75

- 54.** Nuts cost \$3.50 per pound. Approximately how much will 4.25 pounds of nuts cost?

- a. \$12.25 b. \$12.50 c. \$12.88 d. \$14.50 e. \$14.88

Dividing Decimals

To divide a decimal by a whole number, set up the division $8 \overline{)1256}$. Then divide as you would normally divide whole numbers:

Example:

$$\begin{array}{r} .032 \\ \times 8 \\ \hline 0 \\ 25 \\ \hline 24 \\ \hline 16 \\ \hline 16 \\ \hline 0 \end{array}$$

To divide any number by a decimal, there is an extra step to perform before you can divide. Move the decimal point to the very right of the number you're dividing by, counting the number of places you're moving it. Then move the decimal point the same number of places to the right in the number you're dividing into. In other words, first change the problem to one in which you're dividing by a whole number.

Example: $.06\overline{)1.218}$

1. Because there are 2 decimal digits in .06, move the decimal point 2 places to the right in both numbers and move the decimal point straight up into the answer: $.06,\overline{)1.2}\overline{)18}$

2. Divide using the new numbers:

$$\begin{array}{r} 20.3 \\ 6 \longdiv{)21.8} \\ 12 \\ \hline 01 \\ 00 \\ \hline 18 \\ 0 \end{array}$$

Under certain conditions, you have to tack on zeroes to the right of the last decimal digit in the number you're dividing into:

- If there aren't enough digits for you to move the decimal point to the right, or
- If the answer doesn't come out evenly when you do the division, or
- If you're dividing a whole number by a decimal. Then you'll have to tack on the decimal point as well as some zeroes.

Try your skills on these division problems. Answers are at the end of the chapter.

_____ 55. $7\overline{)9.8}$

_____ 56. $0.0004\overline{)0.0512}$

_____ 57. $0.05\overline{)28.6}$

_____ 58. $0.14\overline{)196}$

- _____ 59. If James Worthington drove his new motorcycle 92.4 miles in 2.1 hours, what was his average speed in miles per hour?

a. 41 b. 44 c. 90.3 d. 94.5 e. 194.04

- _____ 60. Mary Sanders walked a total of 18.6 miles in 4 days. On average, how many miles did she walk each day?

a. 4.15 b. 4.60 c. 4.65 d. 22.60 e. 74.40

Percents

What Is a Percent?

A percent is a special kind of fraction or part of something. The bottom number (the *denominator*) is always 100. For example, 17% is the same as 17/100. Literally, the word *percent* means *per* 100 parts. The root *cent* means 100: a *century* is 100 years, there are 100 *cents* in a dollar, etc. Thus, 17% means 17 parts out of 100. Because fractions can also be expressed as decimals, 17% is also equivalent to .17, which is 17 hundredths.

You come into contact with percents every day. Sales tax, interest, and discounts are just a few common examples. If you're shaky on fractions, you may want to review the fraction section before reading further.

Changing a Decimal to a Percent and Vice Versa

To change a decimal to a percent, move the decimal point two places to the right and tack on a percent sign (%) at the end. If the decimal point moves to the very right of the number, you don't have to write the decimal point. If there aren't enough places to move the decimal point, add zeroes on the right before moving the decimal point.

To change a percent to a decimal, drop off the percent sign and move the decimal point two places to the left. If there aren't enough places to move the decimal point, add zeroes on the left before moving the decimal point.

Try changing these decimals to percents. Answers are at the end of the chapter.

_____ **61.** 0.45

_____ **62.** 0.008

_____ **63.** 0.16 $\frac{2}{3}$

Now change these percents to decimals:

_____ **64.** 12%

_____ **65.** 87 $\frac{1}{2}$ %

_____ **66.** 250%

Changing a Fraction to a Percent and Vice Versa

To change a fraction to a percent, there are two techniques. Each is illustrated by changing the fraction 1/4 to a percent:

- Technique 1: Multiply the fraction by 100%.
 Multiply 1/4 by 100%:

$$\frac{1}{4} \times \frac{100\%}{1} = 25\%$$

- Technique 2: Divide the fraction's bottom number into the top number; then move the decimal point two places to the right and tack on a percent sign (%).
 Divide 4 into 1 and move the decimal point 2 places to the right:

$$\begin{array}{r} .25 \\ 4 \overline{)1.00} \\ .25 = 25\% \end{array}$$

To change a percent to a fraction, remove the percent sign and write the number over 100. Then reduce if possible.

- Example:** Change 4% to a fraction

1. Remove the % and write the fraction 4 over 100: 4/100

2. Reduce:

$$\frac{\frac{4}{100}}{\frac{4 \div 4}{100 \div 4}} = \frac{1}{25}$$

Here's a more complicated example: Change 162 2/3% to a fraction

1. Remove the % and write the fraction 16 2/3% over 100: 16 2/3/100

2. Since a fraction means "top number divided by bottom number," rewrite the fraction as a division problem: 16 2/3 ÷ 100

3. Change the mixed number (16 2/3) to an improper fraction (50/3): 50/3 ÷ 100/1

4. Flip the second fraction (100/1) and multiply:

$$\frac{1}{3} \times \frac{50}{100} = \frac{1}{6}$$

Try changing these fractions to percents. Answers are at the end of the chapter.

_____ 67. 1/8

_____ 68. 13/25

_____ 69. 7/12

Now change these percents to fractions:

_____ 70. 95%

_____ 71. 37 1/2%

_____ 72. 125%

Sometimes it is more convenient to work with a percentage as a fraction or a decimal. Rather than have to *calculate* the equivalent fraction or decimal, consider memorizing the equivalence table below. Not only will this increase your efficiency on the math test, but it will also be practical for real life situations.

Percent Word Problems

Word problems involving percents come in three main varieties:

- Find a percent of a whole.

Example: What is 30% of 40?

- Find what percent one number is of another number.

Example: 12 is what percent of 40?

- Find the whole when the percent of it is given.

Example: 12 is 30% of what number?

While each variety has its own approach, there is a single shortcut formula you can use to solve each of these:

$$\frac{\text{is}}{\text{of}} = \frac{\%}{100}$$

The **is** is the number that usually follows or is just before the word **is** in the question.

The **of** is the number that usually follows the word **of** in the question.

The **%** is the number that is in front of the **%** or **percent** in the question.

Or you may think of the shortcut formula as:

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

CONVERSION TABLE

Decimal	%	Fraction
.25	25%	1/4
.50	50%	1/2
.75	75%	3/4
.10	10%	1/10
.20	20%	1/5
.40	40%	2/5
.60	60%	3/5
.80	80%	4/5
.33̄	33 1/3%	1/3
.66̄	66 2/3%	2/3

To solve each of the three varieties, we're going to use the fact that the **cross-products** are equal. The cross-products are the products of the numbers diagonally across from each other. Remembering that *product* means *multiply*, here's how to create the cross-products for the percent shortcut:

$$\frac{\text{part}}{\text{whole}} = \frac{\%}{100}$$

$$\text{part} \times 100 = \text{whole} \times \%$$

Here's how to use the shortcut with cross-products:

- Find a percent of a whole.

What is 30% of 40?

30 is the % and 40 is the *of* number: $\text{is}/40=30/100$

Cross-multiply and solve for *is*: $\text{is } 100=40 \ 30$

$$\text{is } 100=1200$$

$$\mathbf{12} \ 100=1200$$

Thus, **12** is 30% of 40.

- Find what percent one number is of another number.

12 is what percent of 40?

12 is the *is* number and 40 is the *of* number: $12/40=%/100$

Cross-multiply and solve for %: $12 \ 100=40 \ %$

$$1200=40 \ %$$

$$1200=40 \ \mathbf{30}$$

Thus, 12 is **30%** of 40.

- Find the whole when the percent of it is given.

12 is 30% of what number?

12 is the *is* number and 30 is the % $12/\text{of}=30/100$

Cross-multiply and solve for the *of* number: $12 \ 100=\text{of } 30$

$$1200=\text{of } 30$$

$$1200=\mathbf{40} \ 30$$

Thus 12 is 30% **of 40**.

You can use the same technique to find the percent increase or decrease. The *is* number is the amount of increase or decrease, and the *of* number is the original amount.

Example: If a merchant puts his \$20 hats on sale for \$15, by what percent does he decrease the selling price?

1. Calculate the decrease, the *is* number: $\$20-\$15=\$5$

2. The *of* number is the original amount, \$20

3. Set up the equation and solve for *of* by cross-multiplying: $5/20=%/100$

$$5 \ 100=20 \ %$$

$$500=20 \ %$$

$$500=20 \ \mathbf{25}$$

4. Thus the selling price is decreased by 25%

If the merchant later raises the price of the hats from \$15 back to \$20,	$5/15 = \% / 100$
don't be fooled into thinking that the percent increase is also 25%! It's	$5 \cdot 100 = 15\%$
actually more, because the increase amount of \$5 is now based on a lower	$500 = 15\%$
original price of only \$15 :	$500 = 15 \cdot 33\frac{1}{3}$

Thus the selling price is increased by 33%.

Find a percent of a whole. Answers are at the end of the chapter.

73. 1% of 25

74. 18.2% of 50

75. 37 1/2% of 100

76. 125% of 60

Find what percent one number is of another number.

77. 10 is what % of 20?

78. 4 is what % of 12?

79. 12 is what % of 4?

Find the whole when the percent of it is given.

80. 15% of what number is 15?

81. 37 1/2% of what number is 3?

82. 200% of what number is 20?

Now try your percent skills on some real life problems.

83. Last Monday, 20% of the 140-member nursing staff was absent. How many nurses were absent that day?

a. 14

b. 20

c. 28

d. 112

e. 126

- _____ 84. 40% of Springfield High School's teachers are women. If there are 80 female teachers, how many teachers are male?

a. 32 b. 112 c. 120 d. 160 e. 200

- _____ 85. Of the 840 movie videos in the library, 42 were foreign films. What percent of the videos were foreign films?

a. 0.5% b. 2% c. 5% d. 20% e. 50%

- _____ 86. Sam's Shoe Store put all of its merchandise on sale for 20% off. If Jason saved \$10 by purchasing one pair of shoes during the sale, what was the original price of the shoes before the sale?

a. \$12 b. \$20 c. \$40 d. \$50 e. \$70

Averages

What Is an Average?

An average, also called an arithmetic mean, is a number that *typifies* a group of numbers, a measure of central tendency. You come into contact with averages on a regular basis: your bowling average, the average grade on a test, the average number of hours you study per week.

To calculate an average, add up the number of items being averaged and divide by the number of items.

Example: What is the average of 6, 10, and 20?

Solution: Add the three numbers together and divide by 3:

$$\frac{6 + 10 + 20}{3} = 12$$

Try these average questions. Answers are at the end of the chapter.

- _____ 87. Bob's bowling scores for the last 5 games were 180, 182, 184, 186, and 188. What was his average bowling score?

a. 182 b. 183 c. 184 d. 185 e. 186

- _____ 88. Taxi Driver Conroy averaged 30 miles an hour for the two hours he drove in town and 60 miles an hour for the two hours he drove on the highway. What was his average speed in miles per hour?

a. 18 b. 22 1/2 c. 45 d. 60 e. 90

- _____ 89. There are 10 females and 20 males in the life-guarding course. If the females achieved an average score of 85 and the males achieved an average score of 95, what was the class average? (Hint: don't fall for the trap of taking the average of 85 and 95; there are more 95s being averaged than 85s, so the average is closer to 95.)

a. 90 2/3 b. 91 2/3 c. 92 d. 92 2/3 e. 95

Length, Weight, and Time Units

The questions involving length, weight, and time on the math test will ask you either to convert between different measurement units or to add or subtract measurement values.

Converting

You may encounter questions that ask you to convert between units of measurement in length, weight, or time. To convert from a smaller unit (like inches) to a larger unit (like feet), divide the smaller unit by the number of those units necessary to equal the larger unit. To convert from a larger unit to a smaller unit, multiply the larger unit by the conversion number.

Example: Convert 36 inches to feet.

- Since 1 ft=12 in. divide 36 by 12: $36 \div 12 = 3$ ft

Example: Convert 4 feet to inches.

- Since 1 ft = 12 in, multiply 4 by 12: $4 \cdot 12 = 48$ in

Example: Convert 32 ounces to pounds.

- Since 1 lb = 16 oz, divide 32 by 16: $32 \div 16 = 2$ lb

Example: Convert 2 pounds to ounces.

- Since 1 lb = 16 oz, multiply 2 by 16: $2 \cdot 16 = 32$ oz

Example: Convert 180 minutes to hours.

- Since 1 hr=60 min, divide 180 by 60: $180 \div 60 = 3$ hr

Example: Convert 4 hours to minutes.

- Since 1 hr=60 min, multiply 4 by 60: $4 \cdot 60 = 240$ min

Now try some on your own. Convert as indicated. Answers are at the end of the chapter.

_____ 90. $2 \text{ ft} =$ _____ in

_____ 91. $2 \text{ hr} =$ _____ min

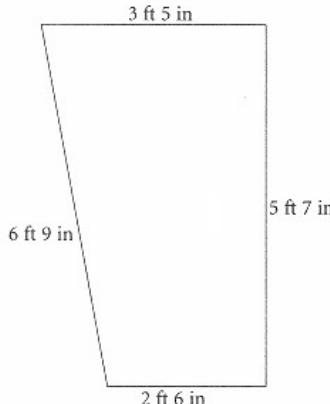
_____ 92. $3 \text{ lb} =$ _____ oz

_____ 93. $120 \text{ min} =$ _____ hr

Calculating with Length, Weight, and Time Units

You may be asked on the test to add or subtract length, weight, and time units. The only trick to doing this correctly is to remember to convert the smaller units to larger units and vice versa, if need be.

Example: find the perimeter of the figure:

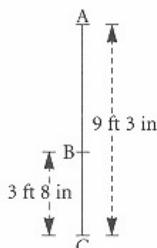


To add the lengths, add each column of length units separately:

$$\begin{array}{r}
 5 \text{ ft} & 7 \text{ in} \\
 + 2 \text{ ft} & 6 \text{ in} \\
 6 \text{ ft} & 9 \text{ in} \\
 + 3 \text{ ft} & 5 \text{ in} \\
 \hline
 16 \text{ ft} & 27 \text{ in}
 \end{array}$$

Since 27 inches is more than 1 foot, the total of **16 ft 27 in** must be simplified:

- Convert 27 inches to feet and inches:



$$\text{Add: } 16 \text{ ft}$$

$$+ 2 \text{ ft } 3 \text{ in}$$

$$\hline 18 \text{ ft } 3 \text{ in}$$

Thus, the perimeter is **18 feet 3 inches**.

Finding the length of a line segment may require subtracting lengths of different units. For example, find the length of line segment \overline{AB} below:

To subtract the lengths, subtract each column of length units separately, starting with the rightmost column.

$$9 \text{ ft } 3 \text{ in}$$

$$- 3 \text{ ft } 8 \text{ in}$$

Warning: You can't subtract 8 inches from 3 inches because 8 is larger than 3! As in regular subtraction, you have to *borrow 1* from the column on the left. However, borrowing 1 ft is the same as borrowing 12 inches; adding the borrowed 12 inches to the 3 inches gives 15 inches. Thus:

$$\begin{array}{r}
 & 15 \\
 8 & 12 \\
 9 \text{ ft } 3 \text{ in} & \\
 - 3 \text{ ft } 8 \text{ in} & \\
 \hline
 5 \text{ ft } 7 \text{ in}
 \end{array}$$

Thus, the length of \overline{AB} is 5 feet 7 inches.

Add and simplify. Answers are at the end of this chapter.

94. $5 \text{ ft } 3 \text{ in}$

$+ 2 \text{ ft } 9 \text{ in}$

95. $7 \text{ lb } 12 \text{ oz}$

$+ 5 \text{ lb } 14 \text{ oz}$

Subtract and simplify.

96. $4 \text{ ft } 1 \text{ in}$

$- 2 \text{ ft } 9 \text{ in}$

97. $5 \text{ hr } 38 \text{ min}$

$- 3 \text{ hr } 45 \text{ min}$

Now try these time word problems.

- 98.** During finals week, Jan took three tests that each required 45 minutes. If she then took one last test, and all four tests required a total of $3 \frac{1}{4}$ hours, how long did the last test take?

- a. $\frac{1}{2}$ hour b. $\frac{2}{3}$ hour c. $\frac{3}{4}$ hour d. 1 hour e. $1 \frac{1}{4}$ hours

- 99.** If each of eight biology classrooms is in use for 5 hours and 15 minutes per day, and a total of 84 student experiments are done, how long does each experiment take on average?

- a. 20 minutes b. 30 minutes c. 40 minutes d. 50 minutes e. 1 hour

Algebra

Popular topics for algebra questions on the math test include:

- Solving equations
- Positive and negative numbers
- Algebraic expressions
- Equations with two variables

What Is Algebra?

Algebra is a way to express and solve problems using numbers and symbols. These symbols, called *unknowns* or *variables*, are letters of the alphabet that are used to represent numbers.

For example, let's say you're asked to find out what number, when added to 3, gives you a total of 5. Using algebra, you could express the problem as $x + 3 = 5$. The variable x represents the number you're trying to find.

Here's another example, but this one uses only variables. To find the distance traveled, multiply the rate of travel (speed) by the amount of time traveled: $d = r \cdot t$. The variable d stands for *distance*, r stands for *rate*, and t stands for *time*.

In algebra, the variables may take on different values. In other words, they *vary*, and that's why they're called *variables*.

Operations

Algebra uses the same operations as arithmetic: addition, subtraction, multiplication, and division. In arithmetic, we might say $3 + 4 = 7$, while in algebra we would talk about two numbers whose values we don't know that add up to 7, or $x + y = 7$. Here's how each operation translates to algebra:

ALGEBRAIC OPERATIONS

The sum of 2 numbers $a + b$

The difference of 2 numbers $a - b$

The product of 2 numbers $a \cdot b$ or $a \cdot b$ or ab

The quotient of 2 numbers a/b

Equations

An equation is a mathematical sentence stating that two quantities are equal. Here are some examples:

1. $x + 5 = 8$
2. $2x = 10$

The idea is to find a replacement for the unknown that will make the sentence true. That's called *solving* the equation. Thus, in the first example, $x = 3$ because $3 + 5 = 8$. In the second example, $x = 5$ because $2 \cdot 5 = 10$.

Sometimes you can solve an equation by inspection, as with the above examples. Other equations may be more complicated and require a step-by-step solution, for example:

3. $3x + 4x = 14$
4. $6x = 4x + 8$
5. $4x + 5 = 2x - 3$

The general approach is to consider an equation like a balance scale, with both sides equally balanced. Essentially, whatever you do to one side, you must also do to the other side to maintain the balance. Thus, if you were to add 2 to the left side, you'd also have to add 2 to the right side.

Let's apply this *balance* concept to examples 3,4, and 5 above. Remembering that we want to solve for x , we must somehow rearrange the equation so the x is isolated on one side. Its value will then be on the other side. Here's how it works:

3. The two terms with x must be added first: $3x + 4x = 14$

$$7x = 14$$

- Now, divide by 7: $7x/7 = 14/7$

$$x = 2$$

4. Since there are x 's on both sides of the equal sign, move $4x$ to the other side by subtracting:

$$\begin{array}{r} 6x = 4x + 8 \\ \underline{-4x - 4x} \end{array}$$

$$x = 0 + 8$$

$$2x = 8$$

Now, divide both sides by 2:

$$2x/2 = 8/2$$

$$x = 4$$

5. Move $2x$ to the left side by subtracting:

$$4x + 5 = 2x - 3$$

$$\begin{array}{r} -2x \quad -2x \\ \hline \end{array}$$

$$2x + 5 = 0 - 3$$

$$2x + 5 = -3$$

Now, subtract 5 from both sides:

$$\begin{array}{r} -5 \quad -5 \\ \hline \end{array}$$

$$2x + 0 = -8$$

$$2x = -8$$

Divide each side by 2:

$$2x/2 = -8/2$$

$$x = -4$$

Notice that each operation in the original equations was undone by using the inverse operation. That is, addition was undone by subtraction, and division was undone by multiplication. In general, each operation can be undone by its *inverse*:

ALGEBRAIC INVERSES

Operation	Inverse	Operation	Inverse
Addition	Subtraction	Subtraction	Addition
Multiplication	Division	Division	Multiplication
Square	Square Root	Square Root	Square

After you solve an equation, check your work by plugging the answer back into the original equation to make sure it balances. Take for example number 5 above. Let's see what happens when we plug -4 in for x :

$$\begin{aligned} 4x + 5 &= 2x - 3 & ? \\ 4(-4) + 5 &= 2(-4) - 3 & ? \\ -16 + 5 &= -8 - 3 & ? \\ -11 &= -11 & \checkmark \end{aligned}$$

Solve each equation. Answers are at the end of this chapter.

_____ 100. $x + 5 = 12$

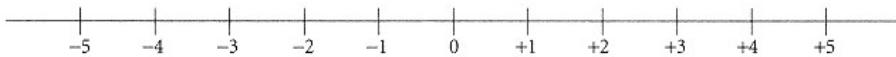
_____ 101. $3x = 12$

102. $3x + 6 = 18$

103. $\frac{1}{4}x = 7$

Positive and Negative Numbers

Positive and negative numbers, also known as *signed* numbers, are best shown as points along the number line:



Numbers to the left of 0 are *negative* and those to the right are *positive*. Zero is neither negative nor positive. If a number is written without a sign, it is assumed to be *positive*. Notice that when you are on the negative side of the number line, numbers with bigger values are actually smaller. For example, -5 is *less than* -2 . You come into contact with negative numbers more often than you might think; for example, very cold temperatures are recorded as negative numbers.

As you move to the right along the number line, the values get larger. Mathematically, to indicate that one number, say 4 , is *greater than* another number, say -2 , the *greater than* sign ($>$) is used:

$$4 > -2$$

On the other hand, to say that -2 is *less than* 4 , we use the *less than* sign ($<$):

$$-2 < 4$$

Arithmetic with Positive and Negative Numbers

The table on the next page illustrates the rules for doing arithmetic with signed numbers. Notice that when a negative number follows an operation (as it does in the second example in the table), it is enclosed in parentheses to avoid confusion.

When more than one arithmetic operation appears, you must know the correct sequence in which to perform the operations. For example, do you know what to do first to calculate $2 + 3 \cdot 4$? You're right if you said, "multiply first." The correct answer is 14. If you add first, you'll get the wrong answer of 20! The correct sequence of operations is:

- | | |
|---|---|
| 1. Parentheses
2. Exponents
3. Multiplication
4. Division
5. Addition
6. Subtraction | } If you remember this saying, you'll know the order of operations:
Please excuse my dear Aunt Sally. |
|---|---|

Even when signed numbers appear in an equation, the step-by-step solution works exactly as it does for positive numbers. You just have to remember the arithmetic rules for negative numbers. For example, let's solve $-14x + 2 = 5$.

RULE	EXAMPLE
Addition	
If both numbers have the same sign, just add them. The answer has the same sign as the numbers being added.	$3 + 5 = 8$ $-3 + (-5) = -8$
If both numbers have different signs, subtract the smaller number from the larger. The answer has the same sign as the larger number.	$-3 + 5 = 2$ $3 + (-5) = -2$
If both numbers are the same but have opposite signs, the sum is zero.	$3 + (-3) = 0$

Subtraction	
Change the sign of the number to be subtracted and then add as above.	$3 - 5 = 3 + (-5) = -2$ $-3 - 5 = -3 + (-5) = -8$ $-3 - (-5) = -3 + 5 = 2$

Multiplication	
Multiply the numbers together. If both numbers have the same sign, the answer is positive; otherwise, it is negative.	$3 \cdot 5 = 15$ $-3 \cdot (-5) = 15$ $-3 \cdot 5 = -15$ $3 \cdot (-5) = -15$ $3 \cdot 0 = 0$
If one number is zero, the answer is zero.	

Division	
Divide the numbers. If both numbers have the same sign, the answer is positive; otherwise, it is negative.	$15 \div 3 = 5$ $-15 \div (-3) = 5$ $15 \div (-3) = -5$ $-15 \div 3 = -5$ $0 \div 3 = 0, 0/3 = 0$
If the number to be divided (or the top number of a fraction) is zero, the answer is zero. You cannot divide by zero; thus, the bottom number of a fraction cannot be zero.	

1. Subtract 2 from both sides:

$$\begin{array}{r} -14x + 2 = -5 \\ -2 -2 \\ \hline -14x = -7 \\ \frac{-14x}{-14} = \frac{-7}{-14} \\ x = \frac{1}{2} \end{array}$$

2. Divide both sides by -14:

Now try these problems with signed numbers. Answers are at the end of this chapter.

104. $(-2)(-4) =$

105. $-1 - (-4) =$

106. $1 - 3(-4) =$

107. $-3x + 6 = -18$

108. $-x/4 + 3 = -7$

Squares and Square Roots

It's not uncommon to see squares and square roots on standardized math tests, especially on questions that involve right triangles.

To find the **square** of a number, multiply that number by itself. For example, the square of 4 is 16, because $4 \times 4 = 16$. Mathematically, this is expressed as:

$$4^2 = 16$$

4 squared equals 16

To find the square root of a number, ask yourself, "What number times itself equals the given number?" For example, the square root of 16 is 4 because $4 \times 4 = 16$. Mathematically, this is expressed as:

$$\sqrt{16} = 4$$

The square root of 16 is 4

Because certain squares and square roots tend to appear more often than others on standardized tests, the best course is to memorize the most common ones.

SQUARES			SQUARE ROOTS		
$1^2 = 1$	$7^2 = 49$	$13^2 = 169$	$\sqrt{1} = 1$	$\sqrt{49} = 7$	$\sqrt{169} = 13$
$2^2 = 4$	$8^2 = 64$	$14^2 = 196$	$\sqrt{4} = 2$	$\sqrt{64} = 8$	$\sqrt{196} = 14$
$3^2 = 9$	$9^2 = 81$	$15^2 = 225$	$\sqrt{9} = 3$	$\sqrt{81} = 9$	$\sqrt{225} = 15$
$4^2 = 16$	$10^2 = 100$	$16^2 = 256$	$\sqrt{16} = 4$	$\sqrt{100} = 10$	$\sqrt{256} = 16$
$5^2 = 25$	$11^2 = 121$	$20^2 = 400$	$\sqrt{25} = 5$	$\sqrt{121} = 11$	$\sqrt{400} = 20$
$6^2 = 36$	$12^2 = 144$	$25^2 = 625$	$\sqrt{36} = 6$	$\sqrt{144} = 12$	$\sqrt{625} = 25$

Find the following square roots. Answers are at the end of the chapter.

109. $\sqrt{25}$

110. $\sqrt{144}$

111. $-\sqrt{100}$

Evaluating Algebraic Expressions

An algebraic expression is a group of numbers, unknowns, and arithmetic operations, like: $3x - 2y$. This one may be translated as, "3 times some number minus 2 times another number." To *evaluate* an algebraic expression, replace each variable with its value. For example, if $x = 5$ and $y = 4$, we would evaluate $3x - 2y$ as follows:

$$3(5) - 2(4) = 15 - 8 = 7$$

Evaluate these expressions:

<u>112.</u>	$4a + 3b$; $a = 2$ and $b = -1$
<u>113.</u>	$3mn - 4m + 2n$; $m = 3$ and $n = -3$
<u>114.</u>	$-2x - 1/2y + 4z$, $x = 5$, $y = -4$, and $z = 6$
<u>115.</u>	The volume of a cylinder is given by the formula $V = \pi r^2 h$, where r is the radius of the base and h is the height of the cylinder. What is the volume of a cylinder with a base radius of 3 and height of 4? (Leave π in your answer.)

Simplifying Algebraic Expressions

If an algebraic expression contains terms with the same variables, the expression can be simplified by combining the like terms. Like terms must have the same variables raised to exactly the same powers. For example:

$3x$ and $4x$ are like terms

$2ab$ and $7ab$ are like terms

$3x^2$ and $21x^2$ are like terms

$3x$ and $4y$ are **not** like terms

$3x$ and $7y^2$ are **not** like terms

Example: Simplify $3x + 4y - x + 5y$

1. Add the x terms: $2x$

$$4y + 5y$$

2. Now add the y terms: $2x + 9y$

Combining Two Algebraic Expressions

Combining algebraic expressions is not hard, as long as you remember to add and subtract the like terms.

Example: Add $(5ab - 7ab^2 + 3a^2b) + (9ab - a^2b)$

1. Add $5ab$, since they are like terms: $(14ab - 7ab^2 + 3a^2b) + (-a^2b)$

2. Now combine $3a^2b$ and $-a^2b$: $14ab - 7ab^2 + 2a^2b$

That is all that can be done, since the three remaining terms are not like terms.

Example: Subtract $(3x^2 + 4x - 4) - (x^2 - 3x + 7)$ (**Hint:** Subtracting is really adding using opposite signs.)

1. Change the middle minus sign to a plus sign and change all of the signs in the second expression: $(3x^2 + 4x - 4) + (-x^2 + 3x - 7)$

2. Add $3x^2$ and $-x^2$: $(2x^2 + 4x - 4) + (3x - 7)$

3. Next, add $4x$ and $3x$: $(2x^2 + 7x - 4) + (-7)$

4. Lastly, combine -4 and -7 : $2x^2 + 7x - 11$

Try a few problems on your own. Answers are at the end of the chapter.

_____ 116. $12xy + 9xy$

_____ 117. $4y^2 - 7yz + 10$

_____ 118. $(3x^2 - 11y^2) + (-5x^2 + 5y^4)$

_____ 119. $(4a^2 - 6ab + 9b^2) - (3a^2 + 5ab - 7b^2)$

Multiplying Algebraic Expressions

The key to multiplying algebraic expressions correctly is knowing how to treat exponents.

Exponents

An *exponent* is a raised number (superscript) after a number or a variable. It means that the number or variable is multiplied times itself a certain number of times. For example:

$$3^2 = 3 \times 3, \text{ or } 9$$

$$y^3 = y \times y \times y, \text{ or } (y)(y)(y)$$

If two variables with exponents are **multiplied**, the rule is: **add the exponents**. For example:

$$(y^2)(y^3) = (y \times y)(y \times y \times y) = y^{2+3} = y^5$$

If two variables with exponents are **divided, subtract the exponents**. For example:

$$y^5 \div y^2 = y^{5-2} = y^3$$

$$x^5 \div x^3 = x^{5-3} = x^2$$

To multiply terms with a mix of variables and numbers, multiply the numbers and then each variable by itself.

Example: Multiply $(4x^2y^3)(7x^4y^6)$

1. First multiply the numbers:

$$28(x^2y^3)(x^4y^6)$$

2. Then multiply the x's, adding the exponents:

$$\begin{aligned} &28x^{2+4}(y^3)(y^6) \\ &28x^6(y^3)(y^6) \end{aligned}$$

3. Now multiply the y's, again adding exponents:

$$\begin{aligned} &28x^6y^{3+6} \\ &28x^6y^9 \end{aligned}$$

Try a few problems on your own. Answers are at the end of the chapter.

120. $(y^2)(y^5)$

121. $(3a^3)5a^3$

122. $(7x^2y^2)(5xy^3)$

Multiplying by a Binomial

When multiplying a term such as 6 by a binomial like $x + y$, it is important to remember that you must multiply the 6 by both the x and y , because $6(x + y)$ really means (6 times x + 6 times y) or $6x + 6y$. The 6 must be *distributed* to both the x and the y . **Remember this rule:** an expression must always be multiplied times everything inside the parentheses, one term at a time.

Example: Multiply $4x(2x^2 + 7x)$

1. First multiply $4x$ times $2x^2$:

$$8x^3$$

2. Next multiply $4x$ times $7x$:

$$28x^2$$

3. This leaves you with:

$$8x^3 + 28x^2$$

Example: Multiply $6x^2y^3(4xy + 8xy^2)$

1. First multiply $6x^2y^3$ times $4xy$:

$$24x^3y^4$$

2. Next multiply $6x^2y^3$ times $8xy^2$:

$$48x^3y^5$$

3. This leaves you with:

$$24x^3y^4 + 48x^3y^5$$

Try a few problems on your own. Answers are at the end of the chapter.

123. $3x(2x - 7)$

124. $4a^2(a + 2a^2)$

125. $5xy^2(2x^2y + 3xy^2)$

Factoring

The opposite operation of multiplication is factoring. In the above example, since:

$$4x(2x^2 + 7x) = 8x^3 + 28x^2 \quad (\text{multiplying})$$

It is also true that:

$$8x^3 + 28x^2 = 4x(2x^2 + 7x) \quad (\text{factoring})$$

In order to factor, you need to find two or more quantities that when multiplied equal the original quantity. Those quantities are called *common factors*. In the example above, $4x$ is the common factor. To factor out a common factor:

1. Find the largest common monomial (factor) that will divide into each term.
2. Divide the original polynomial by this factor. The result will be a polynomial.

Example: In the expression $2x + 4$, 2 divides into both $2x$ and 4; in other words, a 2 can be *factored out*. $2x + 4 = 2(x + 2)$ because $2(x + 2) = 2x + 4$

Example: Factor $7x^2y + 14xy^2$

Since $7xy$ is a common factor: $7x^2y + 14xy^2 = 7xy(x + 2y)$

Try a few factoring problems of your own. Answers are at the end of the chapter.

_____ 126. $3x+9$

_____ 127. $4y^2+6y$

_____ 128. $10a^2b+15a^3b^2$

Dividing Algebraic Expressions

When dividing algebraic expressions, remember to divide the numbers first and then each variable, subtracting the exponents:

Example: $\frac{9x^2}{3x}$

1. First divide the 9 by 3:

$$\frac{3x^2}{x}$$

2. Then divide the variable:

$$3x^{2-1} = 3x^1 = 3x$$

Example: $\frac{18a^2b^5}{6ab^2}$

1. First divide the 18 by 6:

$$\frac{3a^2b^5}{ab^2}$$

2. Then divide a^2 by a :

$$a^{2-1} = a^1 = a$$

3. Next, divide b^5 by b^2 :

$$b^{5-2} = b^3$$

4. Put it together:

$$\frac{18a^2b^5}{6ab^2} = 3ab^3$$

Try a few factoring problems of your own. Answers are at the end of the chapter.

129. $3x^2/3x$

130. $20y^4/5y^2$

131. $12a^4b^2/2a^2b$

Dividing with Binomials

If an expression with more than one term is being divided by another expression, just be sure to divide each term in the numerator.

Example: $\frac{4x^2y^2 - 8x^3y^2}{4xy}$

1. First divide $4x^2y^2$ by $4xy$ $4 \div 4 = 1$

$$x^2 \div x = x$$

$$y \div y = y$$

That leaves: xy

2. Now divide $-8x^3y^2$ by $4xy$ $-8 \div 4 = -2$

$$x^3 \div x = x^2$$

That leaves: $-2x^2y$

3. Put it all together: $\frac{4x^2y^2 - 8x^3y^2}{4xy} = xy - 2x^2y$

Try a few division problems on your own. Answers are at the end of this chapter.

132. $\frac{32x - 8}{4}$

133. $\frac{15x^3y^4 - 9x^2y^2}{3x^2y}$

Equations with Two Variables

An equation with two variables looks like this: $3x + 2y = 6$. There are many values for x and y which will make this equation true. Values for x and y that make an equation true will make both sides equal to each other. For example:

- If $x = 4$ and $y = -3$, then $3(4) + 2(-3) = 12 - 6 = 6$
- or, if $x = 2$ and $y = 0$, then $3(2) + 2(0) = 6 + 0 = 6$
- or if $x = 0$ and $y = 3$, then $3(0) + 2(3) = 0 + 6 = 6$

The values given to x and y in the three examples above are called *ordered pairs*. An ordered pair is said to be a *solution* to an equation if the values make the equation true. For example, in the first example above, 12–6 does equal 6, so the ordered pair (4, -3) is a solution. When an ordered pair is written, the x value is always given first and the y value second.

Example: (1,2) is said to be a solution of $3x + y = 5$, since 1 substituted for x and 2 substituted for y gives: $3(1) + 2 = 5$ and $5 = 5$.

Try a few ordered pair questions. Answers are at the end of the chapter.

_____ 134. Is (2, -5) a solution to the equation: $2x + 2y = -6$?

_____ 135. Is (3,0) a solution to the equation: $2x + 4y = 7$?

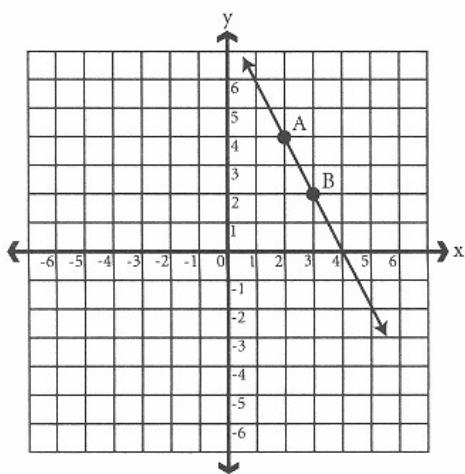
_____ 136. Is (0,6) a solution to the equation: $2x + 6y = 12$?

Equation of a Line

If you plot all the points that satisfy an equation such as $2x + y = 8$ on a grid with an x and y axis, the points will all lie on one line. Therefore, the equation $2x + y = 8$ is actually the *equation of a line*.

When a question asks you whether a graphed line matches a certain equation, see if the points on the line (the x and y values of the points on the line) satisfy the equation (make it true).

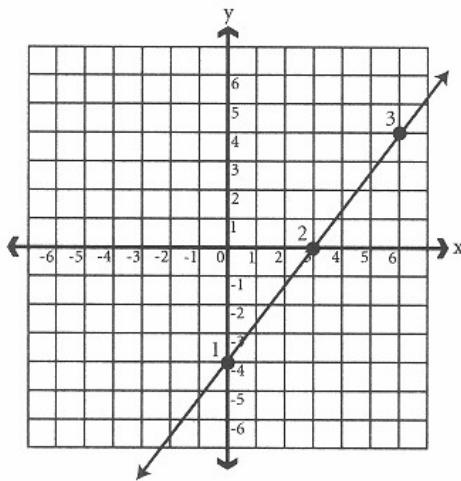
Example: In the line below, point A on the line has the coordinates (2,4), which satisfies the equation $2x + y = 8$, since $2(2) + 4 = 8$. Point B, (3,2), also satisfies the equation: $2(3) + 2 = 8$. Therefore you can say that the line has the equation $2x + y = 8$.



If a question asks you to find the equation of a graphed line, you should use two points on the line and plug them into each equation. The easiest points to use are points that lie on the integer corners of the grid (that fall on the x and y axis).

Example: Which of the following is the equation of the line shown in the graph?

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- a. $x + y = 8$ b. $2x + y = 4$ c. $4x - 3y = 12$

First, substitute the values for at least 2 points into each equation to see which one is true. Good points to use are the points labeled 1 and 2. These are called the *intercepts* because they lie on the intersection of the line and the x or y axis. Point 1 has the coordinates $(0, -4)$ and point 2 has the coordinates $(3, 0)$. You could also use point 3, which has values $(6, 4)$.

a. $x + y = 8$

b. $2x + y = 4$

c. $4x - 3y = 12$

$0 + (-4) = 8$

$2(0) + -4 = 4$

$4(0) - 3(-4) = 12$

$3 + 0 = 8$

$2(3) + 0 = 4$

$4(3) - 3(0) = 12$

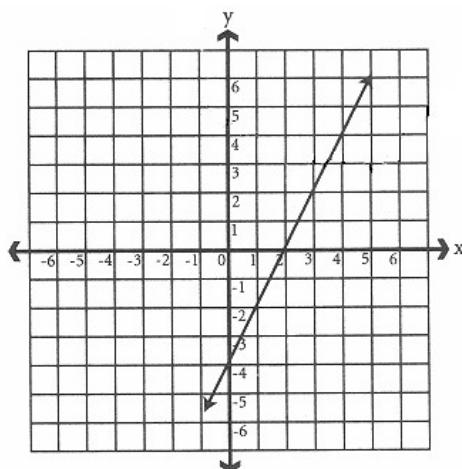
This is not the equation.

This is not the equation.

This is the correct answer.

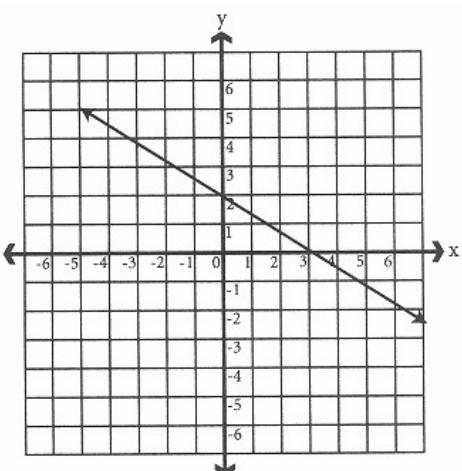
Now try some on your own. Find the correct equation for each of the following lines. Answers are at the end of the chapter.

_____ 137.



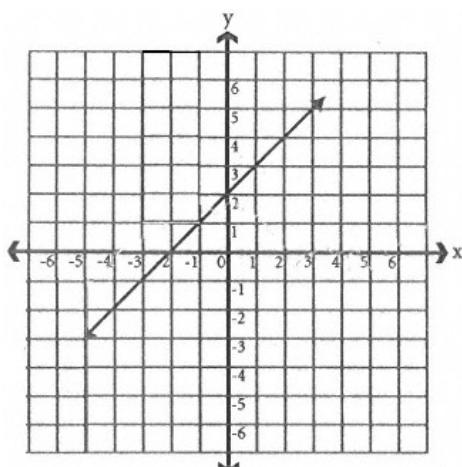
- a. $2x + y = 4$ b. $2x - y = 4$ c. $2x + 2y = 4$ d. $y - 2x = 4$ e. $2x - 2y = 4$

_____ 138.



- a. $3x + 2y = 6$ b. $2x + 4y = 8$ c. $2x - 3y = 12$ d. $2x + 3y = 3$ e. $2x + 3y = 6$

139.



- a. $x - y = -2$ b. $x + y = 4$ c. $x - y = 2$ d. $2x - y = -2$ e. $x + y = 2$

Systems of Equations

When there are two equations with two variables, such as x and y , a unique solution can be found that will satisfy both equations. Usually there is only one pair of numbers that will satisfy both equations. To find out if a pair of numbers satisfies the equations, substitute the first value for x and the second value for y and see if it makes the equations true.

Example: Is (2,3) a solution to the following system of equations?

$$2x + 3y = 13$$

$$x - y = -1$$

1. In the first equation, substitute 2 for x and 3 for y :

$$2x + 3y = 13$$

$$2(2) + 3(3) = 13$$

$$4 + 9 = 13$$

$$13 = 13$$

2. Substitute the same numbers in the second equation:

$$x - y = -1$$

$$2 - 3 = -1$$

$$-1 = -1$$

3. Therefore, the answer is yes; (2,3) is a solution to the system of equations, since it makes both of the equations true.

Example: Is (1,2) a solution to the following system of equations?

$$x + 3y = 7$$

$$4x + 3y = 7$$

1. First, substitute (1,2) into the first equation:

$$x + 3y = 7$$

$$1 + 3(2) = 7$$

$$1 + 6 = 7$$

$$7 = 7$$

2. Then check the second equation also:

$$4x + 3y = 7$$

$$4(1) + 3(2) \neq 7$$

$$4 + 6 \neq 7$$

$$10 \neq 7$$

3. Since (1,2) is only a solution for one equation, the answer is no.

Now try a few on your own. Which of the following is a solution to the system of equations? The answers are given at the end of the chapter.

_____ 140. $x+y=5$

$$x-y=1$$

- a. (2,1) b. (1,3) c. (2,3) d. (3,2) e. (4,1)

_____ 141. $8x-y=29$

$$2x+y=11$$

- a. (3,4) b. (4,3) c. (3,5) d. (2,5) e. (5,3)

_____ 142. $x-y=6$

$$x+y=-2$$

- a. (4,2) b. (-2,4) c. (2,3) d. (-2,3) e. (2, -4)

Perimeter, Area, and the Pythagorean Theorem

There will be a few questions concerning perimeter and area of quadrilaterals and circles on the math test, as well as a question about the Pythagorean Theorem.

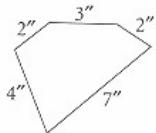
Perimeter

Perimeter is the distance around a polygon. The word *perimeter* is derived from *peri*, which means *around* (as in *periscope* and *peripheral vision*), and *meter*, which means *measure*. Thus *perimeter* is the *measure around* something. There are many everyday applications of perimeter. For instance, a carpenter measures the perimeter of a room to determine how many feet of ceiling molding she needs. A farmer measures the perimeter of a field to determine how many feet of fencing he needs to surround it.

Perimeter is measured in length units, like feet, yards, inches, meters, etc.

To find the perimeter of a polygon, add the lengths of the sides.

Example: Find the perimeter of the polygon below:



Solution: Write down the length of each side and add:

3 inches

2 inches

7 inches

4 inches

+ 2 inches

18 inches

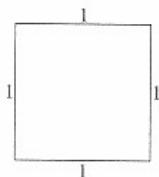
The notion of perimeter also applies to a circle; however, the perimeter of a circle is referred to as its *circumference*.

Find the perimeters for these word problems.

- _____ 143. Maryellen has cleared a 10-foot-by-6-foot rectangular plot of ground for her herb garden. She must completely enclose it with a chain-link fence to keep her dog out. How many feet of fencing does she need, excluding the 3-foot gate at the south end of the garden?
- _____ 144. Terri plans to hang a wallpaper border along the top of each wall in her square dressing room. Wallpaper border is sold only in 12-foot strips. If each wall is 8 feet long, how many strips should she buy?

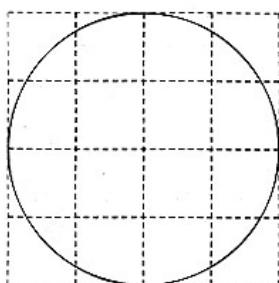
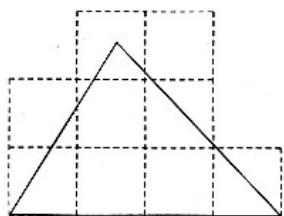
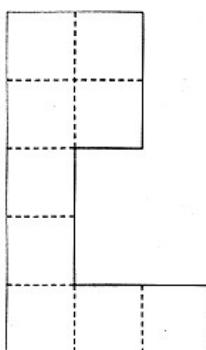
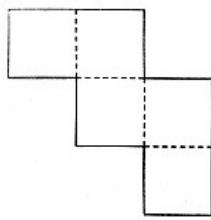
Area

Area is the amount of space taken by a figure's surface. Area is measured in square units. For instance, a square that is 1 unit on all sides covers *1 square unit*. If the unit of measurement for each side is feet, for example, then the area is measured in *square feet*; similarly for other units like square inches, square miles, square meters, and so on.



You could measure the area of any figure by counting the number of square units the figure occupies. The first two figures on the next page are easy to measure.

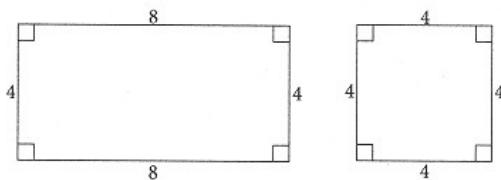
because the square units fit into them evenly, while the next two figures are more difficult to measure because the square units don't fit into them evenly.



Because it's not always practical to measure a particular figure's area by counting the number of square units it occupies, an area formula is used. As each figure is discussed, you'll learn its area formula. Although there are perimeter formulas as well, you don't really need them (except for circles) if you understand the perimeter concept: It is merely the sum of the lengths of the sides.

Quadrilaterals

A quadrilateral is four-sided polygon. The two quadrilaterals that are most likely to appear on the math test are shown below:



These quadrilaterals have something in common beside having four sides:

- Opposite sides are the same size and parallel.
- Opposite angles are the same size.

Perimeter

To find the perimeter of a quadrilateral, follow this simple rule:

$$\text{Perimeter} = \text{Sum of all four sides}$$

Shortcut: Take advantage of the fact that the opposite sides of a rectangle are equal: Just add two adjacent sides and double the sum. Similarly, multiply one side of a square by four.

Here are some word problems in perimeters of quadrilaterals. Answers are at the end of the chapter.

_____ 145. What is the length of a side of a square room whose perimeter is 58 feet?

- a. 8 feet b. 14 feet c. 14.5 feet d. 29 feet e. 232 feet

_____ 146. Find the dimensions of a rectangle with perimeter of 16 feet and whose long size is 3 times its short side.

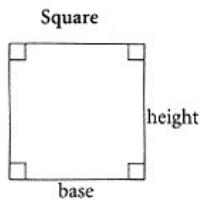
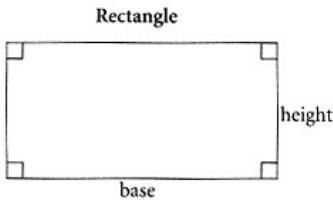
- a. 4 ft. by 4 ft. b. 4 ft. by 12 ft. c. 3 ft. by 5 ft. d. 2 ft. by 6 ft. e. 2 ft. by 8 ft.

Area

To find the area of a rectangle or square, use this formula:

$$\text{Area} = \text{base} \times \text{height}$$

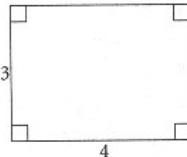
The **base** is the size of the side on the bottom. The **height** (or **altitude**) is the size of a perpendicular line drawn from the base to the side opposite it. The height of a rectangle and a square is the same as the size of its vertical side.



Example: Find the area of a rectangle with a base of 4 meters and a height of 3 meters.

1. Draw the rectangle as close to scale as possible.
2. Label the size of the base and height.
3. Write the area formula; then substitute the base and height numbers into it: Thus, the area is **12 square meters**.

$$\begin{aligned} A &= b \quad h \\ A &= 4 \quad 3 = 12 \end{aligned}$$



Now try some area word problems. Answers are at the end of the chapter.

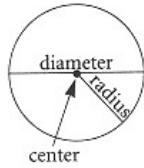
- 147.** Tristan is laying 12-inch by 18-inch tiles on the kitchen floor. If the kitchen measures 15 feet by 18 feet, how many tiles does Tristan need, assuming there's no waste? (Hint: Do *all* your work in either feet or inches.)

- a. 12 b. 120 c. 180 d. 216 e. 270

- 148.** What is the length in feet of a rectangular parking lot that has an area of 8,400 square feet and a width of 70 feet?

- a. 12 b. 120 c. 1,200 d. 4,000 e. 4,130

Circles



We can all recognize a circle when we see one, but its definition is a bit technical. A *circle* is a set of points that are all the same distance from a given point called the *center*. That distance is called the *radius*. The *diameter* is twice the length of the radius; it passes through the center of the circle.

Circumference

The **circumference** of a circle is the distance around the circle (comparable to the concept of the **perimeter** of a polygon). To determine the circumference of a circle, use either of these two equivalent formulas:

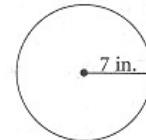
$$\begin{array}{ll} \text{Circumference} = 2\pi r & \bullet r \text{ is the radius} \\ \text{or} & \bullet d \text{ is the diameter} \\ \text{Circumference} = \pi d & \bullet \pi \text{ is approximately equal to 3.14 or} \\ & 22/7 \end{array}$$

Note: Math often uses letters of the Greek alphabet, like π (pi). Perhaps that's what makes math seem like Greek to some people! In the case of the circle, you can use π as a hook to recognize a circle question: a *pie* is shaped like a circle.

Example: Find the circumference of a circle whose radius is 7 inches.

1. Draw this circle and write the radius version of the circumference formula (because you're given the radius):

$$C = 2\pi r$$



2. Substitute 7 for the radius: $C = 2\pi(7)$

3. On a multiple-choice test, look at the answer choices to determine whether to leave π in your answer or substitute the *value* of π in the formula.

If the answer choices don't include π , substitute 22/7 or 3.14 for π and multiply: $C = 2\pi(7) \approx 2(3.14)(7) = 43.96$; $C = 44$

$$C = 2\pi(7); C = 44$$

If the answer choices include π , just multiply: $C = 2\pi(7) = 14\pi$

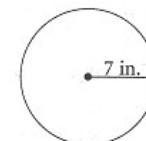
All the answers—44 inches, 43.96 inches, and 14π inches—are considered correct.

Example: What is the diameter of a circle whose circumference is 62.8 centimeters?

Use 3.14 for π .

1. Draw a circle with its diameter and write the diameter version of the circumference formula (because you're asked to find the diameter):

$$C = \pi d$$



2. Substitute 62.8 for the circumference, 3.14 for π , and solve the equation: $62.8 = 3.14d$

The diameter is **20 centimeters**. $62.8 = 3.14(20)$

These word problems require you to find the circumference. Answers are at the end of the chapter.

149. What is the circumference of a circular room whose diameter is 15 feet?

- a. 7.5 ft. b. 15 ft. c. 30 ft. d. 45 ft. e. 225 ft.

_____ 150. What is the circumference of a round tower whose radius is $3\frac{2}{11}$ feet?

- a. 10 ft. b. 20 ft. c. 33 ft. d. 40 ft. e. 48 ft.

_____ 151. Find the circumference of a water pipe whose radius is 1.2 inches.

- a. 1.2 in. b. 1.44 in. c. 2.4 in. d. 12 in. e. 24 in.

Area

The *area* of a circle is the space its surface occupies. To determine the area of a circle, use this formula:

$$\boxed{\text{Area} = \pi r^2}$$

Hook: To avoid confusing the area and circumference formulas, just remember that *area* is always measured in *square* units, like 12 *square yards* of carpeting. Thus, the *area* formula is the one with the *squared* term in it.

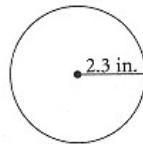
Example: Find the area of the circle at right, rounded to the nearest tenth:

1. Write the area formula:

$$A = r^2$$

2. Substitute 2.3 for the radius:

$$A = 2.3 \quad 2.3$$



3. On a multiple-choice test, look at the answer choices to determine whether to use or the *value of* (decimal or fraction) in the formula. If the answers don't include , use 3.14 for (because the radius is a decimal):

$$A = 3.14 \quad 2.3 \quad 2.3;$$

$$A = 16.6$$

If the answers include , multiply and round:

$$A = 2.3 \quad 2.3;$$

$$A = 5.3$$

Both answers—16.6 square inches and 5.3 square inches—are correct.

Example: What is the diameter of a circle whose area is 9 square centimeters?

1. Draw a circle with its diameter (to help you remember that the question asks for the diameter); then write the area formula:

$$A = r^2$$

2. Substitute 9 for the area and solve the equation:

$$9 = r^2$$

Since the radius is 3 centimeters, the diameter is **6 centimeters**.

$$9 = r^2$$

$$3 = r$$

Try these word problems on the area of a circle. Answers are at the end of the chapter.

_____ 152. What is the area in square inches of the bottom of a coffee pot with a diameter of 6 inches?

- a. 6 b. 9 c. 12 d. 18 e. 36

- 153.** James Band is believed to be hiding within a 5-mile radius of his home. What is the approximate area, in square miles, of the region in which he may be hiding?

a. 15.7 b. 25 c. 31.4 d. 78.5 e. 157

- 154.** If a circular parking lot covers an area of 2,826 square feet, what is the size of its radius? (Use 3.14 for π .)

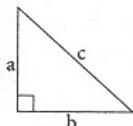
a. 30 ft. b. 60 ft. c. 90 ft. d. 450 ft. e. 900 ft.

The Pythagorean Theorem

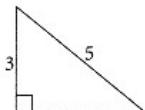
To find the missing side of a RIGHT triangle,
use the Pythagorean Theorem:

$$a^2 + b^2 = c^2$$

(c is the hypotenuse)



Example: What is the length of the missing side of the triangle shown at the right?



1. Use the Pythagorean Theorem:

$$a^2 + b^2 = c^2$$

2. Substitute the given sides for two of the letters. Remember:

Side c is always the hypotenuse:

$$3^2 + b^2 = 5^2$$

$$9 + b^2 = 25$$

3. To solve this equation, subtract 9 from both sides:

$$-9 \quad -9$$

$$b^2 = 16$$

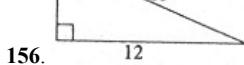
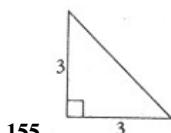
4. Then take the square root of both sides.

$$\sqrt{b^2} = \sqrt{16}$$

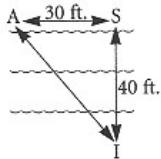
Thus, the missing side has a length of 4 units.

$$b = 4$$

Find the length of the missing side of each triangle. **Hint:** Use the Pythagorean Theorem.



- 157.** Irene is fishing at the edge of a 40-foot wide river, directly across from her friend Sam, who is fishing at the edge of the other side. Sam's friend Arthur is fishing 30 feet down the river from Sam. How far is Irene from Arthur?



More Help with Math

The lessons in this chapter were designed to help you pick up more points on the math portions of the test. By getting used to how questions are typically asked and by knowing more about what test makers are actually testing, you're becoming more familiar with the test format, and therefore more prepared for the test.

However, if there are areas of the math test that continually give you trouble, it's time to ask a teacher or friend for help. Take advantage of the resources available to you, like your school's resource center, or extra study periods with your math teacher. When you go the extra mile to improve areas that need work, you're doing yourself a huge favor—you're improving your chances for success.

Following is a list of books you might want to buy or take out of the library if you prefer to study on your own. Your math teacher might also have some suggestions.

- *Algebra the Easy Way*, 3rd ed. by Douglas Downing (Barren's)

Covers all the basics of algebra; uses a continuous story to help make learning fun.

- *All the Math You'll Ever Need* by Steve Slavin (Wiley)

A friendly guide for those seeking to brush up on mathematics and elementary algebra.

- *Essential Math/Basic Math for Everyday Use* by Edward Williams and Robert A. Atkins (Barren's)

Emphasizes math applications in selected career areas.

- *Everyday Math for Dummies* by Charles Seiter (IDG).

Like other books in the *For Dummies* series, this one features a fun presentation that will help you conquer math anxiety.

- *Math the Easy Way*, 3rd ed. by Anthony Prindle and Katie Prindle (Barren's)

Covers basic arithmetic, fractions, decimals, percents, word problems, and introduces algebra and geometry.

- *Math Essentials* by Steve Slavin (LearningExpress)

If you have trouble with fractions, decimals, or percents, this book offers an easy, step-by-step review.

• *Math Smart: Essential Math for These Numeric Times* (Princeton Review)

Covers all the basics of math using practice exercises with answers and explanations; good for studying math for the first time, or for review.

• *Mathematics Made Simple* by Abraham Sperling and Monroe Stuart (Doubleday)

Targets students and others who want to improve their practical mathskills.

• *Practical Math Success in 20 Minutes a Day* by Judith Robinovitz (LearningExpress)

Provides review of basic math skills and easy-to-follow examples with opportunities for practice.

Answers to Math Problems

Word Problems

1. a.

2. e.

3. d.

4. e.

Number Names

5. 8,755

6. 201

7. seven hundred ten

8. nine thousand one hundred eighty-six

Fractions

9. 1/4

10. 2/5

11. 3/8

12. 10

13. 6

14. 200

15. 11/12

16. 55/24 or 2 7/24

17. 7 1/4

18. 2/15

19. 1/8

20. 19/12 or 1 7/12

21. a.

22. b.

23. 2/15

24. 8/35

25. 2/3

26. 26/15 or 1 11/15

27. 15

28. 33/2 or 16 1/2

29. c.

30. e.

31. c.

32. 1/2

33. 5 1/2

34. 1/5

35. 45/28 or 1 17/28

36. b.

37. d.

38. b.

39. d.

40. c.

Decimals

41. 5/1000 or 1/200

42. 3 12/25

43. 123 456/1000 or 123 57/125

44. 4

45. 8.305

46. 0.907

47. 1.456

48. b.

49. d.

50. 0.03

51. 0.3392

52. 0.70104

53. e.

54. e.

55. 1.4

56. 128

57. 572

58. 1400

59. b.

60. c.

Percents

61. 45%

62. 0.8%

63. 16.67% or 16 2/3%

64. 0.12

65. 0.875

66. 2.5

67. 12.5% or 12 1/2%

68. 52%

69. 58.33% or 58 1/3%

70. 19/20%

71. 3/8

72. 5/4 or 1 1/4

73. 1/4 or 0.25

74. 9.1

75. $37\frac{1}{2}$ or 37.5**76.** 75**77.** 50%**78.** 33 1/3%**79.** 300%**80.** 100**81.** 8**82.** 10**83.** c.**84.** c.**85.** c.**86.** d.***Averages*****87.** c.**88.** c.**89.** b.***Length, Wright, and Time*****90.** 24**91.** 120**92.** 48**93.** 2**94.** 8 ft**95.** 13 lb 10 Oz**96.** 1 ft 4 in**97.** 1 hr 53 min**98.** d.**99.** b.***Algebra*****100.** 7**101.** 4**102.** 4**103.** 28**104.** 8**105.** 3**106.** 13**107.** 8**108.** 40**109.** 5**110.** 12**111.** -10**112.** 5**113.** -45**114.** 16**115.** 36**116.** $21xy$ **117.** $-3y^2z + 10$ **118.** $-2x^2 - 6y^2$ **119.** $a^2 - 11ab + 16b^2$ **120.** y^7 **121.** $15a^5$ **122.** $35x^3y^5$ **123.** $6x^2 - 21x$ **124.** $4a^3 + 8a^4$ **125.** $10x^3 + 8a^4$ **126.** $3(x + 3)$ **127.** $2y(2y + 3)$ **128.** $5a^2b(2 + 3ab)$ **129.** x**130.** $4y^2$ **131.** $6a^2b$ **132.** $8z - 2$ **133.** $5xy^3 - 3y$ **134.** yes**135.** no**136.** no**137.** b.**138.** b.**139.** a.**140.** d.**141.** b.**142.** e.***Area, Perimeter, & Pythagorean Theorem*****143.** 29 feet**144.** 3 strips**145.** c.**146.** d.**147.** c.**148.** b.**149.** b.**150.** b.**151.** c.**152.** b.**153.** b.**154.** a.**155.** $3\sqrt{2}$ **156.** 5**157.** 50 feet

Chapter 13— Practice HSPT Exam 2

Chapter Summary

This is the second of the two practice tests in this book based on the HSPT. Use this test to see how much you've improved.

For this exam, simulate the actual test-taking experience as closely as possible. Work in a quiet place, away from interruptions. Tear out the answer sheet on the next page, and use your number 2 pencil to fill in the circles. Use a timer or stopwatch and allow yourself time as follows:

Part 1: Verbal Skills	16 minutes
Part 2: Quantitative Skills	30 minutes
Part 3: Reading	25 minutes
Part 4: Mathematics	45 minutes
Part 5: Language Skills	25 minutes

After the exam, again use the answer key that follows it to see your progress on each section and to find out why the correct answers are correct and the incorrect ones incorrect. Then use the scoring section at the end of the exam to see how you did overall.

Part 1—
Verbal Skills

1. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	41. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	42. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	43. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	44. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	45. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	46. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	47. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	48. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	49. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	50. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	51. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	52. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	53. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
14. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	54. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
15. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	55. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
16. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	56. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
17. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	57. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
18. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	58. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
19. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	59. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
20. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	60. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d

Part 2—
Quantitative Skills

61. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	79. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	97. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
62. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	80. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	98. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
63. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	81. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	99. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
64. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	82. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	100. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
65. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	83. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	101. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
66. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	84. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	102. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
67. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	85. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	103. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
68. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	86. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	104. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
69. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	87. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	105. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
70. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	88. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	106. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
71. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	89. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	107. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
72. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	90. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	108. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
73. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	91. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	109. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
74. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	92. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	110. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
75. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	93. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	111. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
76. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	94. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	112. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
77. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	95. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
78. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	96. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Part 3—
Reading Skills

113. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	134. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	155. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
114. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	135. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	156. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
115. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	136. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	157. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
116. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	137. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	158. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
117. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	138. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	159. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
118. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	139. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	160. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
119. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	140. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	161. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
120. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	141. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	162. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
121. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	142. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	163. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
122. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	143. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	164. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
123. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	144. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	165. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
124. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	145. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	166. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
125. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	146. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	167. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
126. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	147. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	168. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
127. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	148. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	169. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
128. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	149. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	170. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
129. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	150. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	171. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
130. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	151. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	172. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
131. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	152. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	173. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
132. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	153. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	174. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
133. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	154. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Part 4—
Mathematics

175. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	197. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	219. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
176. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	198. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	220. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
177. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	199. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	221. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
178. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	200. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	222. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
179. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	201. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	223. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
180. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	202. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	224. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
181. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	203. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	225. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
182. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	204. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	226. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
183. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	205. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	227. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
184. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	206. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	228. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
185. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	207. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	229. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
186. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	208. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	230. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
187. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	209. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	231. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
188. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	210. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	232. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
189. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	211. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	233. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
190. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	212. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	234. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
191. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	213. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	235. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
192. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	214. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	236. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
193. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	215. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	237. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
194. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	216. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	238. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d
195. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	217. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
196. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	218. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Part 5—
Language Skills

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| 239. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 259. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 279. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 240. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 260. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 280. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 241. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 261. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 281. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 242. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 262. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 282. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 243. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 263. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 283. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 244. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 264. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 284. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 245. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 265. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 285. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 246. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 266. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 286. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 247. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 267. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 287. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 248. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 268. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 288. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 249. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 269. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 289. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 250. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 270. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 290. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 251. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 271. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 291. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 252. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 272. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 292. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 253. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 273. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 293. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 254. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 274. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 294. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 255. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 275. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 295. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 256. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 276. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 296. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 257. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 277. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 297. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |
| 258. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 278. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d | 298. <input type="radio"/> a <input type="radio"/> b <input type="radio"/> c <input type="radio"/> d |

PART 1: VERBAL SKILLS

Time: 16 minutes

1. Which word does NOT belong with the others?

- a. couch
- b. rug
- c. table
- d. chair

2. Which word does NOT belong with the others?

- a. yarn
- b. twine
- c. cord
- d. tape

3. Walnuts cost more than peanuts. Walnuts cost less than pistachios. Pistachios cost more than both peanuts and walnuts. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

4. Window is to pane as book is to

- a. novel
- b. glass
- c. cover
- d. page

5. Yard is to inch as quart is to

- a. gallon
- b. ounce
- c. milk
- d. liquid

6. Concurrent most nearly means

- a. incidental
- b. simultaneous
- c. apprehensive
- d. substantial

7. An impromptu speech is

- a. tactless
- b. passive
- c. rehearsed
- d. unprepared

8. Which word does NOT belong with the others?

- a. festive
- b. joyous
- c. lucky
- d. merry

9. Virtue is the OPPOSITE of

- a. reality
- b. wisdom
- c. vice
- d. fact

10. Rodent is to mouse as tree is to

- a. leaf
- b. trunk
- c. elm
- d. squirrel

11. Elated is to despondent as enlightened is to

- a. aware
- b. ignorant
- c. miserable
- d. tolerant

12. Proponent most nearly means

- a. advocate
- b. delinquent
- c. idealist
- d. critic

13. A rigorous schedule is

- a. demanding
- b. tolerable
- c. dangerous
- d. orderly

14. All of Joshua's white socks are 100-percent cotton. Joshua's blue socks are not 100-percent cotton. All of Joshua's socks are either white or blue. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

15. Which word does NOT belong with the others?

- a. geology
- b. zoology
- c. theology
- d. botany

16. Which word does NOT belong with the others?

- a. sphere
- b. parallelogram
- c. square
- d. rectangle

17. The Shop-and-Save Grocery is south of Greenwood Pharmacy. Rebecca's house is northeast of Greenwood Pharmacy. Rebecca's house is west of the Shop-and-Save Grocery. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

18. Embarrassed is to humiliated as frightened is to

- a. terrified
- b. agitated
- c. courageous
- d. reckless

19. Deficient is the OPPOSITE of

- a. necessary
- b. complete
- c. flawed
- d. simple

20. Odometer is to mileage as compass is to

- a. speed
- b. hiking
- c. needle
- d. direction

21. Domain most nearly means

- a. entrance
- b. rebellion
- c. formation
- d. territory

22. Escalate most nearly means

- a. intensify
- b. inaugurate
- c. justify
- d. terminate

23. Whiskers weighs less than Paws. Whiskers weighs more than Tabby. Of the three cats, Tabby weighs the least. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

24. All of Harriet's plants are flowering plants. Some of Harriet's plants are succulents. All succulents are flowering plants. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

25. Which word does NOT belong with the others?

- a. pecan
- b. walnut
- c. kernel
- d. cashew

26. Which word does NOT belong with the others?

- a. instruct
- b. teach
- c. educate
- d. discipline

27. Irritate means the OPPOSITE of

- a. soothe
- b. drain
- c. resist
- d. solve

28. Punctual means the OPPOSITE of

- a. random
- b. smooth
- c. intermittent
- d. tardy

29. Optimist is to cheerful as pessimist is to

- a. gloomy
- b. malicious
- c. petty
- d. benevolent

30. Which word does NOT belong with the others?

- a. roof
- b. sidewalk
- c. door
- d. window

31. A detrimental activity is

- a. decisive
- b. harmful
- c. worthless
- d. advantageous

32. Placid most nearly means

- a. peaceful
- b. flabby
- c. wise
- d. obedient

33. All Lamels are Signots with buttons. No yellow Signots have buttons. No Lamels are yellow. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

34. Demolish means the OPPOSITE of

- a. attend
- b. consider
- c. create
- d. stifle

35. Notable means the OPPOSITE of

- a. oral
- b. graceful
- c. legal
- d. ordinary

36. City A has a higher population than City B. City C has a lower population than City B. City A has a lower population than City C. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

37. Which word does NOT belong with the others?

- a. sardine
- b. trout
- c. lobster
- d. catfish

38. Synopsis most nearly means

- a. summary
- b. abundance
- c. stereotype
- d. verification

39. Methodical most nearly means

- a. erratic
- b. deliberate
- c. humble
- d. deformed

40. Which word does NOT belong with the others?

- a. scythe
- b. knife
- c. pliers
- d. saw

41. Sponge is to porous is as rubber is to

- a. massive
- b. solid
- c. elastic
- d. inflexible

42. Candid is to indirect as honest is to

- a. frank
- b. wicked
- c. truthful
- d. devious

43. Recluse most nearly means

- a. prophet
- b. fool
- c. intellectual
- d. hermit

44. A novel idea is

- a. new
- b. ideal
- c. opinionated
- d. believable

45. Martina is sitting in the desk behind Jerome. Jerome is sitting in the desk behind Bryant. Bryant is sitting in the desk behind Martina. If the first two statements are true, the third is

- a. true
- b. false
- c. uncertain

46. Which word does NOT belong with the others?

- a. two
- b. three
- c. six
- d. eight

47. Optimum is the OPPOSITE of

- a. mediocre
- b. victorious
- c. worst
- d. rational

48. Harmony is the OPPOSITE of

- a. noise
- b. brevity
- c. safety
- d. conflict

49. Which word does NOT belong with the others?

- a. peninsula
- b. island
- c. bay
- d. cape

50. Pen is to poet as needle is to

- a. thread
- b. button
- c. sewing
- d. tailor

51. Rationale most nearly means

- a. explanation
- b. regret
- c. denial
- d. anticipation

52. Navigate most nearly means

- a. search
- b. decide
- c. steer
- d. assist

53. Which word does NOT belong with the others?

- a. seat
- b. rung
- c. wood
- d. leg

54. Which word does NOT belong with the others?

- a. fair
- b. just
- c. equitable
- d. favorable

55. Oat cereal has more fiber than corn cereal but less fiber than bran cereal. Corn cereal has more fiber than rice cereal but less fiber than wheat cereal. Rice cereal has the least amount of fiber. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

56. On the day the Barton triplets are born, Jenna weighs more than Jason. Jason weighs less than Jasmine. Of the three babies, Jasmine weighs the most. If the first two statements are true, the third statement is

- a. true
- b. false
- c. uncertain

57. A malicious act is

- a. spiteful
- b. changeable
- c. fearful
- d. dangerous

58. Which word does NOT belong with the others?

- a. defendant
- b. prosecutor
- c. trial
- d. judge

59. Which word does NOT belong with the others?

- a. smile
- b. feel
- c. laugh
- d. cry

60. Disperse means the OPPOSITE of

- a. gather
- b. agree
- c. praise
- d. satisfy

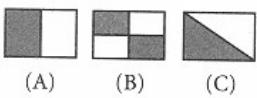
PART 2: QUANTITATIVE SKILLS

Time: 30 minutes

61. Look at this series: 44, 44, 50, 50, 56, What number should come next?

- a. 44
- b. 48
- c. 56
- d. 62

62. Examine (A), (B), and (C) and find the best answer.



- a. (A) is more shaded than (C).
- b. (B) is less shaded than (C).
- c. (A) is more shaded than (B) but less shaded than (C).
- d. (A), (B), and (C) are equally shaded.

63. Examine (A), (B), and (C) and find the best answer.

- (A) $3 \times (3+1)$
- (B) $1 \times (4 + 6)$
- (C) $2 \times (9+3)$

- a. (C) is two times greater than (A)
- b. (A) plus 2 is equal to (B).
- c. (A) minus (B) is equal to (C).
- d. (C) minus (B) is equal to (A).

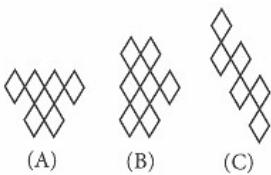
64. What number is 6 more than $\frac{1}{2}$ of 22?

- a. 15
- b. 17
- c. 28
- d. 50

65. What number is 10% of 60 divided by 2?

- a. 3
- b. 12
- c. 15
- d. 32

66. Examine (A), (B), and (C) and find the best answer.



- a. (A) has the same number of diamonds as (C) but more diamonds than (B).
- b. (B) has more diamonds than (A) or (C).
- c. (A) and (B) have the same number of diamonds.
- d. (B) and (C) have the same number of diamonds.

67. Look at this series: 50, 5, 40, 10, 30, What number should come next?

- a. 15
- b. 18
- c. 25
- d. 35

68. Examine (A), (B), and (C) and find the best answer.

- (A) 0.5
- (B) 5%
- (C) 1/5

- a. (A) is greater than (B).
- b. (B) is greater than (A).
- c. (C) is greater than (A).
- d. (A) and (B) are equal.

69. Look at this series: 66, 59, 52, 45, 38, What number should come next?

- a. 29
- b. 31
- c. 32
- d. 35

70. What number divided by 4 equals 1/2 of 6?

- a. 3
- b. 7
- c. 12
- d. 24

71. What number is 10 more than 25% of 8?

- a. 42
- b. 22
- c. 18
- d. 12

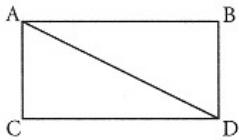
72. Look at this series: 102, 112, 123, 135, What number should come next?

- a. 146
- b. 148
- c. 150
- d. 152

73. Look at this series: 1/6, 1/3, 1/2, 2/3, What number should come next?

- a. 1
- b. 4/6
- c. 5/6
- d. 8/9

74. Examine the rectangle and find the best answer.



- a. AD is greater than AB.
- b. AD is equal to CD.
- c. AD minus BD is equal to CD.
- d. AB is less than AC.

75. What is six less than 1/9 of 45?

- a. -1
- b. -2
- c. 1
- d. 3

76. Examine (A), (B), and (C) and find the best answer.

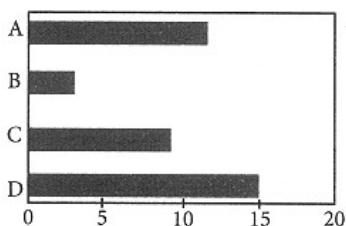
- (A) 2/5 of 100
- (B) 1/2 of 80
- (C) 1/8 of 160

- a. (A) is less than (B) or (C).
- b. (A) and (B) are equal.
- c. (B) and (C) are equal.
- d. (B) is greater than (A) but less than (C).

77. Look at this series: V, VIII, XI, XIV, What number should come next?

- a. IX
- b. XX
- c. XV
- d. XVII

78. Examine the graph and find the best answer.



- a. (A) plus (C) is less than (D).
- b. (A) is greater than (D).
- c. (D) minus (B) is equal to (C).
- d. (D) is greater than (B) plus (C).

79. What number is 6 less than $\frac{2}{5}$ of 25?

- a. -4
- b. 1
- c. 4
- d. 9

80. What number is 3 times 4% of 20?

- a. 2.4
- b. 5.4
- c. 24
- d. 27

81. Look at this series: $\frac{1}{9}, \frac{1}{3}, 1, 3, \dots$. What number should come next?

- a. $\frac{2}{3}$
- b. 6
- c. 9
- d. 12

82. Examine (A), (B), and (C) and find the best answer.

- (A) $n - n$
- (B) n^2
- (C) $n(n)$

- a. (A) plus (C) equals (B).
- b. (B) is greater than (C) but less than (A).
- c. (A) is less than (C).
- d. (A), (B), and (C) are all equal.

83. What number added to 9 is 6 times 5?

- a. 20
- b. 21
- c. 31
- d. 39

84. Look at this series: 33, 31, 27, 25, 21, What number should come next?

- a. 17
- b. 19
- c. 20
- d. 24

85. Examine (A), (B), and (C) and find the best answer.



- a. (A) plus (B) equals (C).
- b. (C) minus (A) equals (B).
- c. (C) is greater than (A) plus (B).
- d. (C) is less than (A) plus (B).

86. Examine (A), (B), and (C) and find the best answer.

- (A) 3% of 100
- (B) 6% of 50
- (C) 12% of 25

- a. (A) is less than (B) or (C).
- b. (C) is greater than (A) or (B).
- c. (B) is less than (C) but greater than (A).
- d. (A), (B), and (C) are all equal.

87. Look at this series: 21,9,21,11,—, 13, What number should fill the blank?

- a. 12
- b. 15
- c. 21
- d. 23

88. Look at this series: 5,2,4,8,4,4, What number should come next?

- a. 3
- b. 3.3
- c. 3.5
- d. 3.6

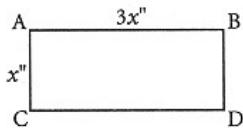
89. What number divided by 5 is 1/10 of 300?

- a. 150
- b. 100
- c. 50
- d. 30

90. Look at this series: 2, 5,28,8,11,20,14, What number should come next?

- a. 12
- b. 17
- c. 23
- d. 28

91. Examine the figure and find the best answer.



- a. AC plus BD is less than AB.
- b. AB minus CD is equal to AC.
- c. AB minus AC is equal to BD.
- d. AC plus BD is greater than CD.

92. Examine (A), (B), and (C) and find the best answer.

- (A) 7^2
- (B) 4^3
- (C) 3^2+6

- a. (A) and (B) are equal.
- b. (A) is greater than (B).
- c. (B) minus (A) is equal to (C).
- d. (B) and (C) are equal to (A).

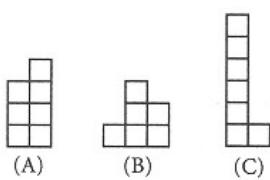
93. Look at this series: 7, 10, 8, 11, 9, __, 10, What number should fill the blank?

- a. 7
- b. 11
- c. 12
- d. 13

94. What number added to 15% of 30 equals 20?

- a. -25
- b. 4.5
- c. 12
- d. 15.5

95. Examine (A), (B), and (C) and find the best answer.



- a. Only (A) and (B) are equal.
- b. Only (A) and (C) are equal.
- c. Only (B) and (C) are equal.
- d. (A), (B), and (C) are all equal.

96. Look at this series: 2, 6, 18, 54, What number should come next?

- a. 108
- b. 148
- c. 162
- d. 216

97. What number plus 2 times the same number equals 99?

- a. 16
- b. 33
- c. 66
- d. 297

98. What number is 16 more than 12% of 1,000?

- a. 1.36
- b. 13.6
- c. 136
- d. 1,360

99. Look at this series: 1000, 200, 40, What number should come next?

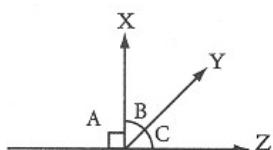
- a. 8
- b. 10
- c. 15
- d. 20

100. Examine (A), (B), and (C) and find the best answer.

- (A) 18
- (B) $6(4+1)$
- (C) $3(4)$

- a. (B) is greater than (C) but less than (A).
- b. (B) divided by (C) is equal to (A).
- c. (C) is greater than (A).
- d. (A) plus (C) is equal to (B).

101. Examine (A), (B), and (C) and find the best answer.



- a. Angle (A) plus angle (B) equals a right angle.
- b. Angle (A) plus angle (B) plus angle (C) equals a right angle.
- c. Angle (B) plus angle (C) equals angle (A).
- d. Angle (A) plus angle (B) equals angle (C).

102. Look at this series: U32, V29, W26, X23, What number should come next?

- a. Y20
- b. Y17
- c. Z20
- d. Z26

103. Look at this series: 664, 332, 340, 170, 178, What number should come next?

- a. 89
- b. 94
- c. 109
- d. 184

104. Seven times what number equals 60% of 770 divided by 6?

- a. 7
- b. 11
- c. 12
- d. 110

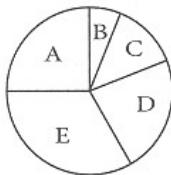
105. 33 is 12% of what number?

- a. 27.5
- b. 39.6
- c. 185
- d. 275

106. Look at this series: 2, IV, 8, XVI, What number should come next?

- a. XXXII
- b. XIX
- c. 16
- d. 32

107. Examine the circle graph and find the best answer.



- a. B and C are equal to A.
- b. E minus A is less than D.
- c. B and C and D are equal to A and E.
- d. A and B and C are equal to D and E.

108. What number is 42 less than 1/5 of 820?

- a. 98
- b. 112
- c. 122
- d. 210

109. Look at this series: 17,—, 28, 28, 39, 39, What number should fill the blank?

- a. 6
- b. 17
- c. 28
- d. 50

110. Examine (A), (B), and (C) and find the best answer.

- (A) 52 inches
- (B) 1 foot 3 inches
- (C) 1 yard 1 inch

- a. (A) is 3 times greater than (B).
- b. (A) minus (B) is equal to (C).
- c. (A) and (B) are equal.
- d. (A) is less than (C).

111. Look at this series: 75, 65, 85, 55,—, 85, 35, 25, What number should fill the blank?

- a. 25
- b. 45
- c. 65
- d. 85

112. What number divided by 4 is equal to 8 more than 4 times 2?

- a. 48
- b. 60
- c. 64
- d. 96

PART 3: READING

Time: 25 minutes

For questions 113 through 152, read each passage carefully. Answer the questions that follow ONLY on the basis of the preceding passage.

In 1899, Czar Nicholas II of Russia, invited the nations of the world to a conference at The Hague in the Netherlands. This conference—and a follow-up organized by Theodore Roosevelt in 1907—ushered in a period of vigorous growth in international law. This growth was in response to several factors, not least of which was the increasing potential for destruction of modern warfare. The recently concluded Civil War in the United States made this potential clear.

During this growth, the subjects of international law were almost exclusively restricted to the relationships that countries had with one another. Issues of trade and warfare dominated both the disputes and the agreements of the period. However, the developments of this period paved the way for further expansion of international law, which has occurred in the last several years. Now, organizations such as the United Nations and the International Court of Justice are greatly concerned not only with the way countries deal with one another, but the ways in which they treat their own citizens.

113. Which of the following would be the best title for this passage?

- a. "Czar Nicholas of Russia"
- b. "The Growth of International Law"
- c. "A Visit to the Netherlands"
- d. "Birth of the United Nations"

114. Which of the following is the best meaning of the underlined phrase ushered in as it is used in the passage?

- a. withdrew from
- b. progressed toward
- c. guarded
- d. led the way to

115. You would most likely find this passage in

- a. a history book
- b. the front page of a newspaper
- c. a historical novel
- d. a weekly news magazine

116. The word vigorous, as it is underlined and used in the passage, most nearly means

- a. powerful but disorderly
- b. weak but important
- c. strong and energetic
- d. lucky and successful

117. According to the passage, which of the following events occurred first?

- a. Czar Nicholas's invitation to a world conference at The Hague
- b. The U.S. Civil War
- c. Theodore Roosevelt's 1907 world conference
- d. the development of the International Court of Justice

118. In the early 20th century, agreements between nations were most often concerned with issues of

- a. land disputes
- b. trade
- c. civil rights
- d. personal freedom

119. According to the passage, what was the impact of the U.S. Civil War on the development of international law?

- a. It allowed armaments manufacturers to test new weapons.
- b. It diminished the influence of the United States internationally.
- c. It resulted in the suspension of agriculture exports from Southern states.
- d. It highlighted the increasing destructive capabilities of modern warfare.

120. The word dominated, as it is underlined and used in the passage, most nearly means

- a. characterized
- b. doomed
- c. crushed
- d. allowed

121. The passage suggests that one of Theodore Roosevelt's concerns in 1907 was the

- a. power of Czar Nicholas II
- b. possibility of a civil war in the U.S.
- c. great danger of modern warfare
- d. possible destruction of the United Nations

122. At which point in the passage does the focus shift from the past to the present time?

- a. the third sentence of the first paragraph
- b. the last sentence of the first paragraph
- c. the first sentence of the second paragraph
- d. the last sentence of the second paragraph

Beginning next month, the city of Welhnont will institute a program intended to remove the graffiti from city-owned delivery trucks. Any truck that finishes its assigned route before the end of the driver's shift will return to its lot where supervisors will provide materials for that driver to use in cleaning the truck. Because the length of time it takes to complete different tasks and routes varies, trucks within the same department will no longer be assigned to specific routes but will be rotated among the routes. Therefore, workers should no longer leave personal items in the trucks, as they will not necessarily be driving the same truck each day as in the past.

123. The main purpose of this passage is to

- a. explain why graffiti should be removed from delivery trucks
- b. announce a plan to remove graffiti from delivery trucks
- c. show that graffiti is a problem for the city of We mont d. tell drivers that their jobs are changing

124. The word institute, as it is used and underlined in the passage, most nearly means

- a. begin
- b. demand
- c. illustrate
- d. terminate

125. You would expect to find the information in this passage in a

- a. weekly news magazine
- b. science book
- c. memorandum to workers
- d. truck drivers' safety manual

126. According to the passage, the removal of graffiti from trucks will be done by

- a. a small group of drivers specifically assigned to the task
- b. custodians who work for the city
- c. any supervisor or driver who finishes a route first
- d. each driver as that driver finishes his or her route

127. According to the passage, routes within particular departments

- a. vary in the amount of time they take to complete
- b. vary in the amount of graffiti they're likely to have on them
- c. are all of approximately equal length
- d. vary according to the truck's driver

128. According to the passage, prior to instituting the graffiti clean-up program, city workers

- a. were not responsible for cleaning the trucks
- b. had to re-paint the trucks at intervals
- c. usually drove the same truck each workday
- d. were not allowed to leave personal belongings in the trucks

129. The word rotated, as it is underlined and used in the passage, most nearly means

- a. circled and swiveled
- b. changed back and forth
- c. assigned each week
- d. chosen

130. Which of the following does the passage suggest is the greatest problem for the city of Wellmont?

- a. drivers leaving their belongings in city trucks
- b. drivers not finishing their routes on time
- c. people who are defacing city-owned property
- d. drivers who do not want to change routes

131. The word therefore, as it is underlined and used in the passage, most nearly means

- a. for this reason
- b. however
- c. about that time
- d. in fact

132. Which of the following statements is correct, according to the passage?

- a. Workers will be fined if they leave belongings in the trucks.
- b. Supervisors and drivers will work together to clean of the trucks.
- c. Drivers will choose their own routes.
- d. The removal of graffiti will begin within the next four or five weeks.

The fictional world of Nobel Prize winner Toni Morrison's novel *Sula* is the African-American section of Medallion, Ohio. This community, known as "the Bottom," is a place where people, and even natural things, are apt to go awry, to break from their prescribed boundaries. It is a place where bizarre and unnatural happenings and strange reversals of the ordinary are commonplace. The very naming of the setting of *Sula* is a turning-upside-down of the expected; the Bottom is located high up in the hills. The novel is furthermore filled with disturbing images, both psychological and physical. A great part of the lives of the characters, therefore, is taken up with making sense of the world, setting boundaries and devising methods to control what is essentially uncontrollable. One of the major devices used by the people of the Bottom is the seemingly universal one of creating a scapegoat. In this case, the scapegoat is the title character Sula, upon whom the people project both the evil they perceive outside themselves and the evil in their own hearts.

133. You would expect to find the information presented in this passage in

- a. a collection of short stories
- b. a history textbook
- c. a book review
- d. the front page of a newspaper

134. This passage is mainly about

- a. why some people do strange things
- b. Toni Morrison's childhood in Ohio
- c. how people are chosen to be scapegoats
- d. the fictional world of Toni Morrison's novel *Sula*

135. The word prescribed, as it is underlined and used in the passage, most nearly means

- a. established
- b. wide
- c. dangerous
- d. meaningful

136. Which of the following words or phrases would best describe the setting of the novel *Sula*?

- a. ordinary but changing
- b. large and flat
- c. swampy
- d. strange

137. In this passage, the name Sula refers to

- a. bizarre and unnatural happenings
- b. a character in a novel
- c. a fictional community in Ohio
- d. a real community in Ohio

138. It is reasonable to conclude that the tone of Toni Morrison's novel could best be described as

- a. inspiring
- b. comical
- c. disturbing
- d. sentimental

139. The word devices, as it is underlined and used in the passage, most nearly means

- a. gadgets
- b. symbols
- c. conversations
- d. strategies

140. The passage suggests that one reason Morrison named her fictional community "the Bottom" was to show that this community was

- a. in need of economic aid
- b. far from ordinary
- c. at the bottom of a hill
- d. in the southern part of Ohio

141. The word scapegoat, as it is underlined and used in the passage, refers to someone who is

- a. the object of blame
- b. sinful or evil
- c. different from the other people around her
- d. psychologically or physically scarred

142. Based on the information given, the tide character of Morrison's novel might best be described as a

- a. leader
- b. victim
- c. teacher
- d. monster

Firefighters are often called upon to speak to school and community groups about the importance of fire safety, particularly fire prevention and detection. Because smoke detectors cut a person's risk of dying in a fire in half, firefighters often provide audiences with information on how to install these protective devices in their homes.

A smoke detector should be placed on each floor level of a home and outside each sleeping area. A good site for a detector would be a hallway that runs between living spaces and bedrooms.

Because of the "dead" air space that might be missed by turbulent hot air bouncing around above a fire, smoke detectors should be installed either on the ceiling at least four inches from the nearest wall, or high on a wall at least four but no further than twelve inches from the ceiling. Detectors should not be mounted near windows, exterior doors, or other places where drafts might direct the smoke away from the unit Nor should they be placed in kitchens and garages, where cooking and gas fumes are likely to set off false alarms.

143. What is the main focus of this passage?

- a. how firefighters carry out their responsibilities
- b. the proper installation of home smoke detectors
- c. the detection of "dead" air space on walls and ceilings
- d. how smoke detectors prevent fires in homes

144. The passage implies that "dead" air space is most likely to be found

- a. on a ceiling, between four and twelve inches from a wall
- b. close to where a wall meets a ceiling
- c. near an open window
- d. in kitchens and garages

145. The passage states that, when compared with people who do not have smoke detectors, persons who live in homes with smoke detectors have a

- a. 50% better chance of surviving a fire
- b. 50% better chance of preventing a fire
- c. 100% better chance of detecting a hidden fire
- d. 200% better chance of not being injured in a fire

146. A smoke detector should NOT be installed near a window because

- a. outside fumes may trigger a false alarm
- b. a wind draft may create a "dead" air space
- c. a wind draft may pull smoke away from the detector
- d. outside noises may muffle the sound of the detector

147. The passage indicates that one responsibility of a firefighter is to

- a. install smoke detectors in the homes of residents in the community
- b. check homes to see if smoke detectors have been properly installed
- c. develop fire safety programs for community leaders and school teachers to use
- d. speak to school children about the importance of preventing fires

148. If a home has three levels—a basement with living space, a first floor with living space, and a second floor with four bedrooms—a minimum of how many smoke detectors should be installed?

- a. 2
- b. 3
- c. 4
- d. 5

149. The tone of this passage could best be described as

- a. instructive
- b. lighthearted
- c. terrifying
- d. emotional

150. Of the following, the best title for this passage would be

- a. "The New Smoke Detector"
- b. "Becoming Aware of Dead Air"
- c. "A Firefighter's Worst Nightmare"
- d. "Smoke Detectors: Life Savers for Your Home"

151. Which of the following is the best place to install a smoke detector?

- a. a kitchen
- b. a garage
- c. near a bedroom window
- d. in a hall outside a bedroom

152. Which of the following statements most likely expresses the author's opinion?

- a. Smoke detectors are costly and should be purchased with care.
- b. Firefighters should spend more of their time speaking in their communities.
- c. It is irresponsible not to have a smoke detector in your home.
- d. You should spend time visiting your local fire department.

For questions 153 through 174, choose the word or phrase that most nearly means the same as the underlined word.

153. to enlighten the audience

- a. offend
- b. confuse
- c. entertain
- d. teach

154. the frail person

- a. tall
- b. weak
- c. robust
- d. adaptable

155. a rigorous schedule

- a. demanding
- b. tolerable
- c. workable
- d. disorderly

156. partisan politics

- a. honorable
- b. neutral
- c. biased
- d. unlawful

157. to recuperate fully

- a. recover
- b. endorse
- c. persist
- d. approve

158. a humble person

- a. common
- b. tolerant
- c. conceited
- d. meek

159. regain your composure

- a. status
- b. poise
- c. liveliness
- d. voice

160. her commendable action

- a. admirable
- b. accountable
- c. irresponsible
- d. noticeable

161. articulate the philosophy

- a. trust
- b. refine
- c. verify
- d. express

162. the expansive facility

- a. obsolete
- b. meager
- c. spacious
- d. costly

163. the beautiful mesa

- a. woman
- b. plateau
- c. valley
- d. dwelling

164. his meticulous examination

- a. delicate
- b. painstaking
- c. responsible
- d. objective

165. his animosity toward us

- a. readiness
- b. compassion
- c. hostility
- d. impatience

166. a spurious statement

- a. prevalent
- b. false
- c. melancholy
- d. actual

167. to emulate another person

- a. imitate
- b. convince
- c. fascinate
- d. punish

168. the meager supply

- a. sincere
- b. abundant
- c. scant
- d. precise

169. a noxious odor

- a. floral
- b. pleasant
- c. harmful
- d. strange

170. to have equity

- a. justice
- b. certainty
- c. wealth
- d. dread

171. a jubilant graduate

- a. charming
- b. joyful
- c. stubborn
- d. scholarly

172. our neighbor's affluence

- a. disregard
- b. wealth
- c. greed
- d. shame

173. the ominous cloud

- a. ordinary
- b. motionless
- c. fluffy
- d. threatening

174. to defray the cost

- a. pay
- b. defend
- c. delay
- d. reduce

PART 4: MATHEMATICS

Time: 45 minutes

175. Write ten thousand four hundred forty-seven in numerals.

- a. 10,499,047
- b. 104,447
- c. 10,447
- d. 1,047

176. In algebra, a "variable" is

- a. the known quantity in the equation
- b. a symbol that stands for a number
- c. an inequality
- d. the solution for the equation

177. In the following decimal, which digit is in the hundredths place? 0.9402

- a. 9
- b. 0
- c. 2
- d. 4

178. Which of the following numbers is the smallest?

- a. 6/10
- b. 8/15
- c. 33/60
- d. 11/20

179. 62.5% is equal to

- a. 1/16
- b. 5/8
- c. 6 1/4
- d. 6 2/5

180. A straight angle is

- a. exactly 180 degrees
- b. between 90 and 180 degrees
- c. 90 degrees
- d. less than 90 degrees

181. $-6^2 =$

- a. -36
- b. 36
- c. -12
- d. 12

182. What is the result of multiplying 11 by 0.032?

- a. 0.032
- b. 0.0352
- c. 0.32
- d. 0.352

183. Which of these angle measures forms a right triangle?

- a. 40 degrees, 40 degrees, 100 degrees
- b. 20 degrees, 30 degrees, 130 degrees
- c. 40 degrees, 40 degrees, 40 degrees
- d. 40 degrees, 50 degrees, 90 degrees

184. The ratio of 2 ounces to 1 pound is

- a. 2:1
- b. 1:16
- c. 1:8
- d. 2:8

185. Which of the following is the best simplification of the following sentence? Salwa is ten years older than Roland.

- a. $10 + S = R$
- b. $S + R = 10$
- c. $R - 10 = S$
- d. $S = R + 10$

186. What is the reciprocal of $3\frac{3}{4}$?

- a. $\frac{4}{15}$
- b. $\frac{15}{4}$
- c. $\frac{14}{5}$
- d. $\frac{5}{14}$

187. What is another way to write 2.75×100^2 ?

- a. 275
- b. 2,750
- c. 27,500
- d. 270,000

188. What is the complementary angle to 36 degrees?

- a. 324 degrees
- b. 144 degrees
- c. 54 degrees
- d. 36 degrees

189. Which of the following number sentences is true?

- a. $4 \text{ feet} > 3 \text{ feet}$
- b. $7 \text{ feet} < 6 \text{ feet}$
- c. $5 \text{ feet} > 6 \text{ feet}$
- d. $3 \text{ feet} < 2 \text{ feet}$

190. Which of the following is true?

- a. $0.008 > 0.08$
- b. $1.5 > 1.455$
- c. $3.662 > 3.7$
- d. $0.5 > 0.09$

191. The greatest common factor of 16 and 38 is

- a. 2
- b. 4
- c. 8
- d. 16

192. What is a quadrilateral with two parallel sides and an angle of 54 degrees?

- a. triangle
- b. rectangle
- c. square
- d. parallelogram

193. In 1995, the number of insects on earth was estimated at 10^{18} . How many insects was that?

- a. 10 10 eighteen times
- b. $10 + 18$ ten times
- c. 10 million 18 million
- d. 18 18 ten times

194. What is the greatest area possible enclosed by a quadrilateral with a perimeter of 24 feet?

- a. 6 square feet
- b. 24 square feet
- c. 36 square feet
- d. 48 square feet

195. What is 0.3642 rounded to the nearest hundredth?

- a. 0.4
- b. 0.37
- c. 0.364
- d. 0.36

196. Which symbol belongs in the box? $0.05 \square \frac{1}{25}$

- a. <
- b. >
- c. =
- d.

197. Which is greatest?

- a. 6 pints
- b. 3 quarts
- c. 1 gallon
- d. 10 cups

198. What is the difference in perimeter/circumference between a square with a base of 4 feet and a circle with a diameter of 4 feet?

- a. $8 - 2$ feet
- b. $16 - 2$ feet
- c. $16 - 4$ feet
- d. $16 - 8$ feet

199. Bill's dog Muffin ate 14 ounces of Hearty Meal dog food and then helped herself to 6 ounces of steak from Bill's plate while Bill's back was turned. How much food did Muffin consume?

- a. 1 pound 6 ounces
- b. 1 pound 4 ounces
- c. 1 pound 2 ounces
- d. 1 pound

200. Six friends agree to evenly split the cost of gasoline on a trip. Each friend paid \$37.27. What was the total cost of gas?

- a. \$370.27
- b. \$223.62
- c. \$314.78
- d. \$262.78

201. Fabio made quiche for dinner last night. He and his family ate $\frac{2}{3}$ of it and saved the rest. The next day, Fabio ate $\frac{1}{2}$ of the remainder for lunch. What fraction of the original quiche is left?

- a. $\frac{1}{5}$
- b. $\frac{1}{6}$
- c. $\frac{1}{7}$
- d. $\frac{1}{8}$

202. Pete earns only $\frac{1}{8}$ what José does. José makes \$19.50 an hour. For an 8-hour day, how much does Pete earn?

- a. \$18.50
- b. \$18.75
- c. \$19.50
- d. \$19.75

203. A law enforcement agency receives a report of a drunk driver on the roadway on August 3 at 10:42 P.M. and another similar report at 1:19 A.M. on August 4. How much time has elapsed between reports?

- a. 1 hour 37 minutes
- b. 2 hours 23 minutes
- c. 2 hours 37 minutes
- d. 3 hours 23 minutes

204. $(14 - 7) + 12 =$

- a. 98
- b. 266
- c. 110
- d. 100

205. 2 feet 4 inches + 4 feet 8 inches =

- a. 6 feet 8 inches
- b. 7 feet
- c. 7 feet 12 inches
- d. 8 feet

206. $17^2 =$

- a. 34
- b. 68
- c. 136
- d. 289

207. $3.16 \div 0.079 =$

- a. 0.025
- b. 2.5
- c. 4.0
- d. 40.0

208. 300% of 20 =

- a. 7
- b. 20
- c. 30
- d. 60

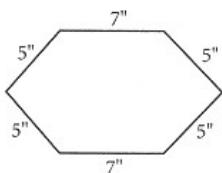
209. Solve for x in the following equation: $\frac{1}{3}x + 3 = 8$

- a. 33
- b. 15
- c. 11
- d. 3

210. Change this mixed number to an improper fraction: $5\frac{1}{2}$.

- a. $\frac{11}{2}$
- b. $\frac{10}{2}$
- c. $\frac{7}{2}$
- d. $\frac{5}{2}$

211. What is the perimeter of the polygon shown below?



- a. 20 inches
- b. 27 inches
- c. 30 inches
- d. 34 inches

212. Mark's temperature at 9:00 A.M. was 97.2 F. At 4:00 P.M., his temperature was 99 F. By how many degrees did his temperature rise?

- a. 0.8
- b. 1.8
- c. 2.2
- d. 2.8

213. For the company's third anniversary, the caterer provided 3 one-pound chunks of cheese. At the end of the party, there were $\frac{3}{5}$ pound of Swiss, $\frac{4}{7}$ pound of Vermont cheddar, and $\frac{5}{8}$ pound of feta cheese left. What fraction of the original three pounds was left after the party?

- a. $\frac{1}{123/280}$ pounds of cheese
- b. $\frac{1}{223/280}$ pounds of cheese
- c. $\frac{1}{283/270}$ pounds of cheese
- d. $\frac{1}{393/290}$ pounds of cheese

214. Yetta just got a raise of $31\frac{1}{4}\%$. Her original salary was \$30,600. How much does she make now?

- a. \$30,594.50
- b. \$31,594.50
- c. \$32,094.50
- d. \$32,940.50

215. The number of red blood corpuscles in one cubic millimeter is about 5,000,000, and the number of white blood corpuscles in one cubic millimeter is about 8,000. What, then, is the ratio of white blood corpuscles to red blood corpuscles?

- a. 1:625
- b. 1:40
- c. 4:10
- d. 5:1,250

216. If $2x/16 = 12/48$, what is x ?

- a. 2
- b. 3
- c. 4
- d. 5

217. $7 \div 3/8 =$

- a. $18\frac{2}{3}$
- b. $12\frac{3}{8}$
- c. $14\frac{5}{6}$
- d. $10\frac{4}{5}$

218. $s = t(3 + 5) - (11 - t)$

$$t = 2 \\ s =$$

- a. -7
- b. -5
- c. 5
- d. 7

219. $0.31 + 0.673 =$

- a. 0.0983
- b. 0.983
- c. 0.967
- d. 9.83

220. In order to protect her new VW Bug, Maria needs to build a new garage. The concrete floor needs to be 64.125 square feet and is $9\frac{1}{2}$ feet long. How wide does it need to be?

- a. 7.25 feet
- b. 5.5 feet
- c. 6.75 feet
- d. 8.25 feet

221. The price of cheddar cheese is \$2.12 per pound. The price of Monterey Jack cheese is \$2.34 per pound. If Harrison buys 1.5 pounds of cheddar and 1 pound of Monterey Jack, how much will he spend in all?

- a. \$3.18
- b. \$4.46
- c. \$5.41
- d. \$5.52

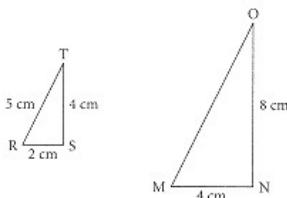
222. After paying a commission to his broker of 7% of the sale price, a seller receives \$103,000 for his house. How much did the house sell for?

- a. \$95,790
- b. \$110,000
- c. \$110,420
- d. \$110,753

223. This month, attendance at the baseball park increased 150% over what it was last month. If attendance this month was 280,000, what was the attendance last month, rounded to the nearest whole number?

- a. 140,000
- b. 176,670
- c. 186,667
- d. 205,556

224. Triangles RST and MNO are similar. What is the length of line segment MO?



- a. 5 cm
- b. 10 cm
- c. 20 cm
- d. 32 cm

225. The sum of a number and its double is 69. What is the number?

- a. 46.6
- b. 34.5
- c. 23
- d. 20

226. If $10x - 3y = 40$, and $x = 1$, what does y equal?

- a. -10
- b. -4
- c. 4
- d. 10

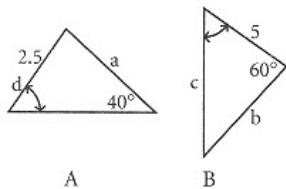
227. What is the median of the following group of numbers? 6 8 10 12 14 16 18

- a. 11
- b. 12
- c. 13
- d. 14

228. 35% of what number is equal to 14?

- a. 4
- b. 40
- c. 49
- d. 400

229. Which side is the longest of the following triangles. if triangle A is similar to triangle B?



- a. a
- b. b
- c. c
- d. d

230. Of the 1,200 videos available for rent at a certain video store, 420 are comedies. What percent of the videos are comedies?

- a. 28 1/2%
- b. 30%
- c. 32%
- d. 35%

231. One colony of bats consumes 36 tons of mosquitoes per year. At that rate, how many pounds of mosquitoes does the same colony consume in a month?

- a. 36,000 pounds
- b. 12,000 pounds
- c. 6,000 pounds
- d. 3,000 pounds

232. A helicopter flies over a river at 6:02 A.M. and arrives at a heliport 20 miles away at 6:17 A.M. How many miles per hour was the helicopter traveling?

- a. 120 mph
- b. 300 mph
- c. 30 mph
- d. 80 mph

233. Jared and Linda are both salespeople at a certain electronics store. If they made 36 sales one day, and Linda sold three less than twice Jared's sales total, how many units did Jared sell?

- a. 19
- b. 15
- c. 12
- d. 13

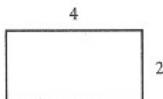
234. Karl is four times as old as Pam, who is onethird as old as Jackie. If Jackie is 18, what is the sum of their ages?

- a. 64
- b. 54
- c. 48
- d. 24

235. Solve for x in the following equation: $1.5x - 7 = 12.5$

- a. 29.25
- b. 19.5
- c. 13
- d. 5.5

236. What is the area of the rectangle?



- a. 6 square feet
- b. 8 square feet
- c. 12 square feet
- d. 16 square feet

237. Gilda is making a quilt. She wants a quilt that is 30 square feet. She has collected fabric squares that are 6 inches by 6 inches. How many squares will she need?

- a. 60 squares
- b. 90 squares
- c. 100 squares
- d. 120 squares

238. 19 more than a certain number is 63. What is the number?

- a. 14
- b. 44
- c. 58
- d. 82

PART 5: LANGUAGE SKILLS

Time: 25 minutes

For questions 239 through 278, find (he sentence that has a mistake in capitalization, punctuation, or usage. If you find no mistakes, mark choice **d**.

239. a. Can you find the Indian ocean on this map?

- b. Which river, the Nile or the Amazon, is longer?
- c. Lemer Avenue runs into the Thompson Parkway.
- d. No mistakes.

240. a. The muffins cost more than the bread does.

- b. Roberta and I were in the same watercolor class.
- c. The temperature was colder today than it was yesterday.
- d. No mistakes.

241. a. Sheila's sister wanted to accompany us to the party.

- b. Who's scarf is this?
- c. "Be sure to wear something comfortable," she said.
- d. No mistakes.

242. a. The main problem Jim had was too many parking tickets.

- b. As the bears ran toward us, it was growling.
- c. Try using less butter next time.
- d. No mistakes.

243. a. David and Mickey danced in the street.

- b. Here is the photographs I wanted to show you.
- c. My grandfather owns a 1967 Mustang.
- d. No mistakes.

244. a. He's the best dancer in the school.

- b. We were planning to go, but the meeting was canceled.
- c. "Okay," she said, I'll go with you."
- d. No mistakes.

245. a. Have you ever read the book *Little House on the Prairie*?

- b. She urged me not to go.
- c. Stop, look, and listen.
- d. No mistakes.

246. a. I don't want to participate no longer.

- b. If you're not sure, look in the dictionary.
- c. "I will try to do better," Lauren promised.
- d. No mistakes.

247. a. They weren't the only ones who didn't like the movie.

- b. "Please come back another time," Aunt Julie begged.
- c. "Threes a crowd," he always says.
- d. No mistakes.

248. a. Anne will head out first, and Nick will follow her.

- b. Maya Angelou, a famous poet, has recently directed a movie.
- c. The clerk asked for my address and phone number.
- d. No mistakes.

249. a. My cousin Randall is an artist and a musician.

- b. I would love to live in Florida during the winter.
- c. Margie wants to become a history professor.
- d. No mistakes.

250. a. Does Judge Parker live on your street?

- b. Twenty government officials met to deal with Wednesday's crisis.
- c. The Mayor spoke at a news conference this morning.
- d. No mistakes.

251. a. John Glenn was a senator from Ohio.

- b. Is Dad going to join us for dinner?
- c. Elizabeth I was one of England's most famous queens.
- d. No mistakes.

252. a. Indira sometimes wears her beautiful sari.

- b. Lyie went shopping, and that he forgot his wallet.
- c. His shoes are just like mine.
- d. No mistakes.

253. a. My brother Isaac is the best player on the team.

- b. Because of the high cost; we decided not to go.
- c. Where's your new puppy?
- d. No mistakes.

254. a. I have learned to appreciate Mozart's music.

- b. My cousin Veronica is studying to be a Veterinarian.
- c. Mr. Shanahan is taller than Professor Martin.
- d. No mistakes.

255. a. We sold less cookies this year than we did last year.

- b. That parrot doesn't talk.
- c. Don't spend too much money.
- d. No mistakes.

256. a. She spread the frosting too thickly.

- b. "What is your answer?" she asked.
- c. We waited while he stopped to make a phone call.
- d. No mistakes.

257. a. Between the three of us, we should find the answer.

- b. Alberto laughed loudly when he saw us.
- c. They're looking for another apartment.
- d. No mistakes.

258. a. "You look just like your mother," Ms. Jones told me.

- b. "Please be careful," he said.
- c. Tyier asked, "why do I have to go to bed so early?"
- d. No mistakes.

259. a. The first house on the street is there's.

- b. I love the fireworks on the Fourth of July.
- c. My grandparents live in San Juan, Puerto Rico.
- d. No mistakes.

260. a. Graceland is the name of Elvis Presley's mansion.

- b. We set up the tent, but it soon fell over.
- c. Give me a break!
- d. No mistakes.

261. a. It has not rained since last April.

- b. The jurors walked solemnly into the room.
- c. Had we known, we would not have come.
- d. No mistakes.

262. a. The dog's barking woke us.

- b. Ursula has broke one of your plates.
- c. The sun rose from behind the mountain.
- d. No mistakes.

263. a. Do you prefer root beer over orange soda?

- b. In which year did world war II end?
- c. I like to study the geography of the Everglades.
- d. No mistakes.

264. a. After we sat down to eat dinner, the phone rung.

- b "Keep a positive attitude," he always says.
- c. Sign here.
- d. No mistakes.

265. a. Colds like many other viruses are highly contagious.

- b. Call me when you feel better.
- c. Did you wash your hands, Michael?
- d. No mistakes.

266. a. The Adirondacks are mountains in New York.

- b. President Carter gave the Panama Canal back to Panama.
- c. That river is terribly polluted.
- d. No mistakes.

267. a. The children's books are over there.

- b. She missed the bus and arrives late.
- c. There is hardly enough food for a mouse.
- d. No mistakes.

268. a. It's not my fault that you and him got caught.

- b. "Do you brush twice a day?" Dr. Evans asked.
- c. What's the weather report?
- d. No mistakes.

269. a. Couldn't you arrive fashionably late?

- b. You're assumption is correct.
- c. I know that Bowser will be well treated.
- d. No mistakes.

270. a. The industrial revolution began in Europe.

- b. Is Labor Day a national holiday?
- c. General Patton was a four-star general.
- d. No mistakes.

271. a. We invited Mayor Chen to speak at our school.

- b The alarm sounded, and the firefighters jumped into the truck.
- c. The volunteers work as hard as one can.
- d. No mistakes.

272. a. The winners were announced yesterday.

- b. Liam is one of the boys who were chosen.
- c. Although Nick was not selected, he was happy for the other.
- d. No mistakes.

273. a. Carmen brought bread, and butter, and strawberry jam.

- b. Let's look at the map.
- c. Be sure to thank Aunt Helen for the gift.
- d. No mistakes.

274. a. He shook the crumbs from the tablecloth.

- b. We will strive to do our best.
- c. I see that Fred has wore his old shoes.
- d. No mistakes.

275. a. *The Robber Bride* is my favorite Margaret Atwood novel.

- b. I have never understood when to use dashes.
- c. What is this paragraph's topic sentence?
- d. No mistakes.

276. a. Opal likes to drive better than Claire does.

- b. Clothes from the seventies are back in style.
- c. Please write a note to Aunt Ginny.
- d. No mistakes.

277. a. My Aunt Georgia loves to read Eighteenth-Century novels.

- b. Eli's sister's cousin lives in Alaska.
- c. Is that a German shepherd?
- d. No mistakes.

278. a. Those shoes are too expensive.

- b. Michael's best friend is Patrick.
- c. Did you hear that Inez got a new puppy.
- d. No mistakes.

For questions 279 through 288, find the sentence that has a mistake in spelling. If you find no mistakes, mark choice **d**.

279. a. All employees will be eligible for three weeks of vacation.

- b. The managment team promised to look into the situation.
- c. We saw an enormous animal running toward us.
- d. No mistakes.

280. a. The commissioner has assumed responsibility.

- b. Kate likes to visit with her nieghbor.
- c. This is not a commonly held viewpoint.
- d. No mistakes.

281. a. Edith and her sister closely resemble one another.

- b. Her handwriting was barely legible.
- c. There are two paring knives in the drawer.
- d. No mistakes.

282. a. Our company sent forty representatives to the meeting.

- b. When did you realize that the theory could not be proven?
- c. We both filled out an application for employment.
- d. No mistakes.

283. a. All of the musicians were well trained.

- b. Thank you for your assistance.
- c. You are required to follow standard procedures.
- d. No mistakes.

284. a. I knew she was bored because she wriggled in her seat.

- b. If you want to succeed, please report to work imediately.
- c. He was conscious of his surroundings.
- d. No mistakes.

285. a. My mother will soon celebrate her fortieth birthday.

- b. Autumn is my favorite time of year.
- c. My cousin is going skiing in Feburary.
- d. No mistakes.

286. a. William is the most sensable person I know.

- b. The festival is held at a different time each year.
- c. It is not customary for the members to arrive late.
- d. No mistakes.

287. a. As treasurer, Jenny has the financial responsibility.

- b. I've been assured that this illness is not contagious.
- c. My mother says our neighbor is eccentric, but I say she's weird.
- d. No mistakes.

288. a. I admire Rachel's abilities as a scholar.

- b. The senators will vote on two critical issues.
- c. Please pick up my prescription at the pharmacy.
- d. No mistakes.

For questions 289 through 298, follow the directions for each question.

289. Choose the word that best joins the thoughts together.

Mr. Love felt it was time to find a new career; _____, he could not afford to go back to school.

- a. consequently
- b. in fact
- c. thus
- d. however

290. Choose the word that best joins the thoughts together.

_____ my doctor's appointment was scheduled for 1:30, in fact, I did not see Dr. Marshall until almost 2:45.

- a. Unless
- b. Although
- c. When
- d. That

291. Which of these expresses the idea most clearly?

- a. For three weeks the Merryville Fire Chief received taunting calls from an arsonist, who would not say where he intended to set the next fire.
- b. The Merryville Fire Chief received taunting calls from an arsonist, but he would not say where he intended to set the next fire, for three weeks.
- c. He would not say where he intended to set the next fire, but for three weeks the Merryville Fire Chief received taunting calls from an arsonist.
- d. The Merryville Police Chief received taunting calls from an arsonist for three weeks, not saying where he intended to set the next fire.

292. Which of these expresses the idea most clearly?

- a. There is no true relationship between ethics and the law.
- b. Ethics and the law having no true relationship.
- c. Between ethics and the law, no true relationship.
- d. Ethics and the law is no true relationship.

293. Which of these expresses the idea most clearly?

- a. Some people say jury duty is a nuisance that just takes up their precious time and that we don't get paid enough.
- b. Some people say jury duty is a nuisance that just takes up your precious time and that one doesn't get paid enough.
- c. Some people say jury duty is a nuisance that just takes up one's precious time and that one doesn't get paid enough.
- d. Some people say jury duty is a nuisance that just takes up our precious time and that they don't get paid enough.

294. Choose the group of words that best completes this sentence

A sharpshooter for many years,

- a. a pea could be shot off a person's shoulder from 70 yards away by Miles Johnson.
- b. Miles Johnson could shoot a pea off a person's shoulder from 70 yards away.
- c. from 70 yards away off a person's shoulder Miles Johnson could have shot a pea.
- d. Miles Johnson could shoot from 70 yards away off a person's shoulder a pea.

295. Which of the following topics is best for a onepage essay?

- a. The Rodents of North America
- b. U.S. Laws Relating to the Control of Mice, Rats, and Squirrels
- c. Why Curbing the Squirrel Population in New York is a Bad Idea
- d. How to Make a Pet Hamster Happy

296. Which of these best fits under the topic, "High Altitudes Increase Risks from the Sun"?

- a. Mountain athletes have always known that the thinner air at high altitudes means less oxygen.
- b. Researchers have found that ultra-violet radiation levels from the sun were 60 percent higher at 8,500 feet than they were at sea level.
- c. Fourteen minutes of noontime sun exposure in Orlando, Florida, is equal to twenty-five minutes in upstate New York.
- d. Dr. Darren, a dermatologist at the University Medical Center, is perfecting methods to heal skin that has been severely damaged by the sun.

297. Which sentence does NOT belong in the paragraph?

1) Barbara Miller stumbled upon her new business purely by accident. 2) While she was visiting friends in Arizona, she happened to walk past a dog bakery that sold all-natural dog biscuits, beaded collars, and canine gifts. 3) Veterinarians warn dog owners not to feed their pets people food. 4) Now, Miller is about to open her own dog bakery in New York.

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence 4

298. Where should the sentence, "Because of these oxides and minerals, agates can be found in a multitude of colors," be placed in the paragraph below?

1) The stones known as beach agates are a form of quartz. 2) Thousands of years before the Ice Age, these agates formed in gravel beds along the coastal plains. 3) They were formed by water-bom silicones, oxides, and metals that were deposited in basalt and other earth forms. 4) No two agates are exactly alike.

- a. Before Sentence 1
- b. Between Sentences 1 and 2
- c. Between Sentences 2 and 3
- d. Between Sentences 3 and 4

Answers**PART 1: VERBAL SKILLS**

- 1. b.** The *couch*, *table*, and *chair* are pieces of furniture; the *rug* is not.
- 2. d.** The *yarn*, the *twine*, and the *cord* are all used for tying. The *tape* is not used in the same way.
- 3. a.** Because the first two statements are true, pistachios are the most expensive of the three.
- 4. d.** A *window* is made up of *panes*, and a book is made up of pages. The answer is not **a**, because a *novel* is a type of book. The answer is not **b**, because *glass* has no relationship to book. Choice **c** is incorrect because a *cover* is only one part of a book; a book is not made up of covers.
- 5. b.** A *yard* is a larger measure than an *inch* (a yard contains 36 inches). A *quart* is a larger measure than an *ounce* (a quart contains 32 ounces). *Gallon*, choice **a**, is incorrect because it is larger than a quart. Choices **c** and **d** are incorrect because they are not units of measurement.
- 6. b.** *Concurrent* and *simultaneous* both mean happening at the same time.
- 7. d.** *Impromptu* means without preparation.
- 8. c.** *Festive*, *joyous*, and *merry* are all synonyms. *Lucky* has a different meaning.
- 9. c.** *Virtue* means a moral goodness; *vice* means a moral failing.
- 10. c.** A *mouse* is a type of *rodent*; an *elm* is a type of *tree*. Choices **a** and **b** are incorrect because a *leaf* and a *trunk* are parts of a tree, not types of trees.
- 11. b.** *Elated* is the opposite of *despondent*; *enlightened* is the opposite of *ignorant*. The answer is not **b** because *aware* is a synonym for enlightened. The answer is not **c** or **d** because neither of these is the opposite of enlightened.
- 12. a.** A *proponent* is a supporter of something; an *advocate* is someone who supports something--a cause, for instance.
- 13. a.** A *rigorous* schedule is challenging, difficult, or *demanding*.
- 14. c.** The first two statements give information about Joshua's white socks and blue socks. Information about socks of any other color cannot be determined.
- 15. c.** *Geology*, *zoology*, and *botany* are all branches of science. *Theology* is the study of religion.
- 16. a.** The *parallelogram*, the *square*, and the *rectangle* all have four sides. The *sphere* is a different shape and has no angles.
- 17. b.** Because the first two statements are true, Rebecca's house is also northeast of the Shop-and-Save Grocery, which means that the third statement is false.
- 18. a.** If someone has been *humiliated*, they have been greatly *embarrassed*. If someone is *terrified*, they are extremely *frightened*. The answer is not **b** because an *agitated* person is not necessarily frightened. Choices **c** and **d** are incorrect because neither word expresses a state of being frightened.
- 19. b.** *Deficient* means lacking in some necessary quality, so the opposite of deficient is *complete*.
- 20. d.** An *odometer* is an instrument used to measure *mileage*. A *compass* is an instrument used to determine *direction*. Choices **a**, **b** and **c** are incorrect because they are completely unrelated to a compass.
- 21. d.** A *domain* is an area governed by a ruler; a *territory* is an area for which someone is responsible.
- 22. a.** To *escalate* is to increase in extent; to *intensify* is to make larger or stronger.

23. a. According to the first two statements, Paws weighs the most and Tabby weighs the least.
24. c. Although all of Harriet's succulents are flowering plants, it cannot be determined by the information given whether or not all succulents are flowering plants.
25. c. *Pecans*, *walnuts*, and *cashews* are all types of nuts. A *kernel* is not a type of nut.
26. d. *Instruct*, *teach*, and *educate* are all synonyms.
27. a. To *irritate* means to annoy; to *soothe* means to calm.
28. d. To be *punctual* means to be on time; to be *tardy* means to be late.
29. a. An *optimist* is a person whose outlook is *cheerful*. A *pessimist* is a person whose outlook is *gloomy*. The answer is not b because a pessimist does not have to be *malicious*. Choices c and d are incorrect because neither of these adjectives describes the outlook of a pessimist.
30. b. The *roof*, *door*, and *window* are parts of a house. The *sidewalk* is in front of the house, but it is not part of the building.
31. b. *Detrimental* means obviously *harmful* or damaging.
32. a. *Placid* means serenely free of disturbance; calm. *peaceful*.
33. a. We know that there are Signots with buttons, or Lamels, and that there are yellow Signots, which have no buttons. Therefore, Lamels do not have buttons and cannot be yellow.
34. c. To *demolish* means to tear apart; to *create* means to build.
35. d. *Notable* means unusual; *ordinary* means usual.
36. b. From the first two statements we know that of the three dries. City A has the highest population, so the third statement must be false.
37. c. The *sardine*, *trout*, and *catfish* are all types of fish; the *lobster* is a crustacean.
38. a. A *synopsis* is an abbreviated version; a *summary* is a brief statement of facts or points.
39. b. *Methodical* means careful or in a planned manner; *deliberate* means careful or slow.
40. c. The *scythe*, the *knife*, and the *saw* are all cutting tools. *Pliers* are tools but they are not used for cutting.
41. c. A *sponge* is a *porous* material. *Rubber* is an *elastic* material. Choice a is incorrect because rubber would not generally be referred to as *massive*. The answer is not b because even though rubber is a *solid*, its most noticeable characteristic is its elasticity. Choice d is incorrect because rubber is NOT *inflexible*.
42. d. *Candid* and *indirect* are opposing traits. *Honest* and *devious* are opposing traits. The answer is not a, because *frank* means the same thing as candid. *Wicked*, choice b, is incorrect because even though it is a negative trait, it does not mean the opposite of honest. Choice c is incorrect because *truthful* and honest mean the same thing.
43. d. A *recluse* is a person who lives withdrawn or shut up from the world, a *hermit*.
44. a. The adjective *novel* means new or not representing something formerly known.
45. b. Given the information in the first two statements, Bryant is sitting in front of both Jerome and Martina, so the third statement must be false.
46. b. *Two*, *six*, and *eight* are all even numbers; *three* is an odd number.
47. c. *Optimum* means the most desirable; *worst* means the least desirable.
48. d. *Harmony* means agreement; *convict* implies a disagreement.
49. c. A *peninsula*, an *island*, and a *cape* are all landforms; a *bay* is a body of water.
50. d. A *pen* is a tool used by a *poet*. A *needle* is a tool used by a *tailor*. The answer is not a, b, or c

because none are people and therefore cannot complete the analogy.

51. a. A *rationale* is a reason for something; an *explanation* is a clarification or definition or something.

52. c. To *navigate* and to *steer* both mean to direct a course.

53. c. *Seat*, *rung*, and *leg* are all parts of a chair. Not all chairs are made of *wood*.

54. d. *Fair*, *just*, and *equitable* are all synonyms meaning impartial. *Favorable* means expressing approval.

55. a. From the first statement, we know that bran cereal has more fiber than both oat cereal and corn cereal. From the second statement we know that rice cereal has less fiber than both corn and wheat cereals. Therefore, rice cereal has the least amount of fiber.

56. c. We only know that Jasmine weighs more than Jason. There is no way to tell whether Jasmine also weighs more than Jenna.

57. a. A *malicious* action and a *spiteful* action are both intended to harm.

58. c. *Defendant*, *prosecutor*, and *judge* are all persons involved in a trial. The *trial* is not a person.

59. b. *Smile*, *laugh*, and *cry* are all active manifestations of feelings.

60. a. To *disperse* means to scatter; to *gather* means to collect in one place.

PART 2: QUANTITATIVE SKILLS

61. c. This is an alternation with repetition series, in which each number repeats itself, then increases by 6.

62. d. The rectangles are all the same size and all are one-half shaded.

63. a. First solve for (A), (B), and (C): $3 - (3 + 1) = 12$; $1 - (4 + 6) = 10$; $2 - (9 + 3) = 24$. Then find out which choice is true.

64. b. $1/2 \text{ of } 22 = 11$; $6 + 11 = 17$.

65. a. $10\% \text{ of } 60 = 6$; $6 \text{ divided by } 2 = 3$.

66. b. Count the number of diamonds in (A), (B), and (C) and then test each choice to find out if it is true.

67. a. This is an alternating addition and subtraction series. In the first pattern, 10 is subtracted from each number to arrive at the next. In the second, 5 is added to each number to arrive at the next.

68. a. First change (B) and (C) to decimals: $5\% = 0.05$; $1/5 = 0.2$. Then find out which choice is true.

69. b. This is a simple subtraction series; each number is 7 less than the previous number.

70. c. First, set up the equation: $n \div 4 = 1/2 \text{ of } 6$. Then solve: $n \div 4 = 3$; $n = 12$.

71. d. $25\% \text{ of } 8 = 2$; $2 + 10 = 12$.

72. b. In this addition series, 10 is added to the first number, 11 is added to the second number; 12 is added to the third number; and so forth.

73. c. This is a simple addition series. Each number increases by 1/6.

74. a. The figure forms two right triangles. Line AD is the hypotenuse and must be longer than either AB or CD.

75. a. $1/9 \text{ of } 45 = 5$; $5 - 6 = -1$

76. b. First solve for (A), (B), and (C): (A) = 40, (B) = 40, (C) = 20. Then find out which choice is true.

77. d. This is a simple addition series; each number is 3 more than the previous number.

78. d. First, determine the value of each letter: A = 12, B = 3, C = 9, D = 15. Then test each choice to find out if it is true.

79. c. $2/5 \text{ of } 25 = 10$; $10 - 6 = 4$.

80. a. $4\% \text{ of } 20 = 0.8$; $3 - 0.8 = 2.4$.

- 81. c.** This is a multiplication series; each number is 3 times the previous number.
- 82. d.** (B) and (C) are equal to $n - n$.
- 83. b.** First, set up the equation: $9 + n = 6 - 5$. Then, solve: $n = 30 - 9$; $n = 21$.
- 84. b.** This is an alternating subtraction series. First 2 is subtracted, then 4, then 2, and so on.
- 85. d.** First determine the amounts shown in (A), (B), and (C), and then test each statement to find out if it is true.
- 86. d.** Of (A), (B), and (C), each is equal to 3.
- 87. c.** In this alternating repetition series, the random number 21 is interpolated every other number into an otherwise simple addition series that increases by 2, beginning with the number 9.
- 88. d.** In this simple subtraction series, each number decreases by 0.4.
- 89. a.** First set up the equation: $n \div 5 = 1/10 - 300$. Then solve: $n \div 5 = 30$; $n = 150$.
- 90. b.** Two series alternate here, with every third number following a different pattern. In the main series, 3 is added to each number to arrive at the next. In the alternating series, 8 is subtracted from each number to arrive at the next.
- 91. a.** AC plus BD are equal to $2x$ and are therefore less than AB, which is $3x$.
- 92. c.** First solve for (A), (B), and (C): (A) = 49, (B) = 64, (C) = 15. Then find out which choice is true.
- 93. c.** This is a simple alternating addition and subtraction series. In the first pattern, 3 is added; in the second, 2 is subtracted.
- 94. d.** First set up the equation: $(0.15 - 30) + n = 20$. Then solve: $4.5 + n = 20$; $n = 15.5$.
- 95. b.** Count the number of blocks in (A), (B), and (C) and then test each choice to find out which one is true.
- 96. c.** This is a simple multiplication series. Each number is three times more than the previous number.
- 97. b.** First, set up the equation: $n + 2n = 99$. Then solve: $3n = 99$; $n = 33$.
- 98. c.** $12\% \text{ of } 1,000 = 120$; $120 + 16 = 136$
- 99. a.** This is a simple division series. Each number is divided by 5.
- 100. d.** First solve for (B) and (C): (B) = 30, (C) = 12. Then find out which choice is true.
- 101. c.** Angle (A) is a right triangle. Angle (B) plus angle (C) equals another right triangle.
- 102. a.** In this series, the letters progress by 1; the numbers increase by 3.
- 103. a.** This is an alternating multiplication and addition series: First, divide by 2, and then add 8.
- 104. b.** First, set up the equation: $7n = (0.6 - 770) \div 6$. Then solve: $7n = 77$; $n = 11$.
- 105. d.** First, set up the equation: $33 = 0.12 - n$. Then solve: $33 \div 0.12 = 275$.
- 106. d.** This is an alternating multiplication series. Each number is 2 times more than the previous number. Roman numbers alternate with Arabic numbers.
- 107. b.** First determine an approximate percentage for each letter: A = 25%, B = 5%, C = 14%, D = 22%, E = 33%. Then test each statement to find out if it is true.
- 108. c.** $1/5 \text{ of } 820 = 164$; $164 - 42 = 122$.
- 109. b.** In this simple addition with repetition series, each number in the series repeats itself, and then increases by 11 to arrive at the next number.
- 110. b.** First convert (B) and (C) to inches: (B) = 15 inches and (C) = 37 inches. Then find out which choice is true.
- 111. b.** This is a simple subtraction series in which a random number, 85, is interpolated as every

third number. In the subtraction series, 10 is subtracted from each number to arrive at the next.

112. c. First, set up the equation: $n \div 4 = 8 + (4 - 2)$. Then solve: $n + 4 = 16$; $n = 64$.

PART 3: READING

113. b. This is the best choice because the passage focuses on the expansion of international law. Choice a is a poor choice because, even though the passage mentions Czar Nicholas, it does not focus on his reign. Choice c is also a poor choice because the passage is not mainly about the Netherlands. Although the United Nations is mentioned (d), the passage doesn't focus on it.

114. d. This is the best definition in the context. The other choices are illogical.

115. a. This is the most obvious choice and the best choice. The others can be ruled out. Choices b and d are poor choices because the information in this passage is mainly historical, not current and newsworthy; c is a poor choice because the writing in a novel would be more about characterization or action.

116. c. In the context of the passage, this is the only choice that makes logical sense. Choices a and b can be ruled out because they include negative terms. There is no indication that the growth in international law was lucky, so d can also be ruled out.

117. b. The first paragraph clearly states that the Civil War occurred before these other events.

118. b. This is clearly stated in the second sentence of the second paragraph. There is no support for the other choices.

119. d. Choices a, b, and c are not supported by information in the passage. Thus, the best choice is d, which can be found in the last sentence of the first paragraph.

120. a. This is the only choice that makes sense in the context of the second paragraph. Issues of trade and warfare *characterized* the disputes and agreements of the period.

121. c. This is clearly stated in the third sentence of the first paragraph. There is no support for choice a. Choice b is incorrect because the U.S. Civil War was over; d is wrong because the United Nations had not yet formed.

122. d. The last sentence of the second paragraph shifts from historical events to the present state of international law.

123. b. The first sentence clearly states that this is an announcement of a new program. There is no support for choices a or c. Although the drivers' jobs may change somewhat (choice d), this is not the main focus of the passage.

124. a. This is the only choice that makes sense in the context of the passage. The passage clearly indicates that the program is just beginning.

125. c. This information would be given to the drivers in some type of notice or memorandum, so this is the best choice. Choices a and b are unlikely. There is no mention of safety, so d can be ruled out.

126. d. The second sentence of the passage indicates that each driver who finishes a route will clean a truck.

127. a. The third sentence of the passage indicates that routes vary in the length of time they take to complete. The other choices are not included in the passage.

128. c. According to the last sentence of the passage, in the past city workers usually drove the same truck each day.

129. b. In the context of the passage, *rotated* means moved around, changed, or switched.

130. c. Because the city wants to clean up the graffiti, it is reasonable to conclude that this is a problem for the city of Wellmont. Choice a may be a problem, but the graffiti is a greater problem. There is no support for **b** or **d**.

131. a. *Therefore* indicates a cause and effect; choice a is the only logical choice.

132. d. This statement is confirmed by the first sentence of the passage: if the removal will begin "next month," it would have to begin within four or five weeks. There is no support for a or c. Choice b is clearly incorrect because drivers will clean the trucks, not the supervisors.

133. c. Of the choices listed, this is the most likely source. The others can be ruled out. Because this is not a fictional account, **a** is not the best choice. Choice **b** is very unlikely. Choice **d** can be ruled out because this information is not front-page news.

134. d. The main focus is stated in the passage's first sentence. Choices **a** and **c** are touched upon, but neither is the main focus of the passage. Nothing in the passage indicates that Toni Morrison ever lived in Ohio (choice **b**).

135. a. In the context of the sentence, *prescribed* refers to boundaries that were already in place, those that were previously *established*.

136. d. The passage says the people who live in "the bottom" are *apt to go awry*, to *break from their natural boundaries*. In short, it is a *strange* place. Choice a contradicts this; there is no support for **b** or **c**.

137. b. The last sentence clearly states that Sula is the title character of Morrison's novel.

138. c. The passage states that the novel is *filled with disturbing images*. There is nothing in the passage to indicate that the novel is inspiring, comical, or sentimental (choices **a**, **b**, and **d**).

139. d. The context of the passage indicates that the word *devices* refers to a plan or strategy used by the people to make Sula a scapegoat. Choice a can be ruled out because a gadget is a tangible item. Choices b and c do not make sense in the context of the passage.

140. b. This is clearly stated in the third and fourth sentences. There is no support for choice **a**. The opposite of **c** is true. The geographical region of Ohio (choice **d**) is not mentioned.

141. a. A *scapegoat* is one who is forced to bear the blame for others or upon which the sins of a community are heaped; this is clearly defined in the last sentence.

142. b. Since the passage indicates that Sula is chosen as a scapegoat for the community's ills, she has become a victim of the community. There is nothing to suggest that she is a leader (choice **a**) or a teacher (**c**). Choice **d** is attractive because perhaps the community makes her out to be a monster, but she is really a victim.

143. b. Although the passage mentions firefighters' responsibilities (**a**), the main focus of the passage is the installation of smoke detectors. Answer **c** is only a detail. Answer **d** is not mentioned.

144. b. The answer can be found in the first sentence of the third paragraph.

145. a. The answer is found in the first paragraph (*smoke detectors cut a person's risk of dying in a fire in half*).

146. c. The answer can be found in the next to last sentence of the passage.

147. d. The answer is implied by the first sentence of the passage. There is no information in the pas-

sage to indicate that the other choices are a firefighter's responsibility.

148. b. The answer is drawn from the second paragraph. The house has three floors and the sleeping areas are all on one of these floors; therefore, the house should have three detectors.

149. a. The passage informs and instructs, so this is the best choice. It is clearly not lighthearted (**b**). Although the information may be a little frightening, the tone is not terrifying (**c**); nor is it presented in an emotional way (**d**).

150. d. Of the choices, this is the only workable title. The others are misleading and can be ruled out. The passage does not mention *new* smoke detectors (choice **a**). The passage is not about dead air, so **b** is not a good choice. Nor is it about the problems of firefighters, so **c**, too, can be ruled out.

151. d. This answer can be found in the second paragraph. The others are ruled out in the third paragraph.

152. c. This is the most likely opinion of the author, based on the passage; the author believes that all homes should have smoke detectors. There is nothing in the passage to indicate choice **a**. Choices **b** and **d** are attractive, but the passage offers much more support for choice **c**.

153. d. *Enlighten* means to furnish knowledge; to instruct.

154. b. *Frail* means fragile or physically weak.

155. a. One meaning of *rigorous* is difficult or challenging; demanding.

156. c. *Partisan* means exhibiting blind and prejudiced allegiance to something.

157. a. *Recuperate* means to recover health or strength.

158. d. Someone who is *humble* is meek and nonassertive.

159. b. *Composure* means a calmness of mind or appearance; poise.

160. a. *Commendable* means praiseworthy or admirable.

161. d. *Articulate* means to express clearly and effectively.

162. c. *Expansive* means having a great expanse; sizable, spacious.

163. b. A *mesa* and a *plateau* are both hills with flat tops.

164. b. *Meticulous* means marked by extreme or excessive care; painstaking.

165. c. *Animosity* is a strong resentment or hostility toward something.

166. b. Something that is *spurious* is not genuine.

167. a. To *emulate* a person means to strive to equal that person or to imitate that person.

168. c. *Meager* means deficient in quality or quantity; thin; scanty.

169. c. *Noxious* means poisonous or harmful.

170. a. *Equity* means justice or impartiality.

171. b. *Jubilant* means joyful.

172. b. *Affluence* means having great wealth.

173. d. *Ominous* means foreshadowing evil, threatening.

174. a. To *defray* means to provide for the payment of something, to *pay*.

PART 4: MATHEMATICS

175. c. The correct answer here is 10,447. It helps, if you are in a place where you can do so, to read the answer aloud; that way, you'll likely catch any mistake. When writing numbers with more than 4 digits, begin at the right and separate the digits into groups of threes with commas.

176. b. The variable is a symbol that stands for any number under discussion.

177. d. The hundredths place is two digits to the right of the decimal point. The 9 is in the tenths place; the 0 is in the thousandths place; the 2 is in the ten-thousandths place.

178. b. Fractions must be converted to the lowest common denominator, which is 60. $6/10 = 36/60$; $11/20 = 33/60$; $8/15 = 32/60$, which is the smallest fraction.

179. b. $62.5\% = 62.5/100$. You should multiply both the numerator and denominator by 10 to move the decimal point, resulting in $625/1000$ and then factor both the numerator and denominator to find out how far you can reduce the fraction. $\frac{(5)(5)(5)(5)}{(5)(5)(5)(8)}$ If you cancel the three 5s that are in both the numerator and denominator, you will get $5/8$.

180. a. A straight angle is exactly 180 degrees.

181. b. Minus 6^2 is equal to -6 multiplied by itself, or $-6 \times (-6)$. When multiplying two negative numbers, the answer is positive: 36.

182. d. To find the answer do the following equation: $11 - 0.032 = 0.352$.

183. d. This is the only choice that includes a 90 degree angle.

184. c. There are 16 ounces in one pound, so the ratio of 2 ounces to 1 pound 2:16; reduced, this becomes 1:8.

185. d. First, change the names to letters; remember that the letters then represent, not the people, but their *ages*. S (Salwa's age) equals R (Roland's age) plus 10 (years).

186. a. Change the mixed number to an improper fraction: $3\frac{3}{4} = \frac{15}{4}$. Now invert: $\frac{4}{15}$.

187. c. The solution to this problem lies in knowing that 100^2 is equal to 100×100 , or 10,000. Next, you must multiply $10,000 \times 2.75$ to arrive at 27,500.

188. c. Complementary angles add to 90 degrees. Therefore, the complementary angle is $90^\circ - 36^\circ = 54^\circ$.

189. a. The symbol $>$ means "greater than," and the symbol $<$ means "less than." The only sentence that is correct is choice **a**: 4 feet is greater than 3 feet. The other choices are untrue.

190. b. The other choices are all untrue.

191. a. This is the only common factor.

192. d. A quadrilateral is a polygon with four sides. This eliminates the triangle. Rectangles, squares, and parallelograms all have two parallel sides, but only a parallelogram can have an angle that measures something other than 90 degrees.

193. a. 10^{18} means 10 to the 18th power, or 10 times itself 18 times.

194. c. The greatest area from a quadrilateral will always be a square. Therefore, a side will be $24 \div 4 = 6$ feet. The area is $6^2 = 36$ square feet.

195. d. The hundredths place is two decimals over from the decimal point. If the digit to the right of it is less than 5, do not round up.

196. b. $0.05 = 1/20$, so 0.05 is greater than $1/25$.

197. c. There are 4 quarts to a gallon; 2 pints to a quart; 2 cups to a pint.

198. c. The perimeter is $4 \times$ for the square, and the circumference is $d \pi$ for the circle. This is a difference of $16 - 4\pi$.

199. b. This is a basic addition problem. Begin by adding: 14 ounces + 6 ounces = 20 ounces. Since there are 16 ounces in a pound, 20 ounces becomes 1 pound 4 ounces.

200. b. \$37.27 multiplied by six equals \$223.62.

201. b. There is $1/3$ of the quiche left after the first day. $1/2$ of $1/3 = 1/2 \times 1/3 = 1/6$.

202. c. First change the fraction to a decimal: $1/8 = 1 \div 8 = 0.125$. Now multiply that by Jose's hourly wage in order to get Pete's hourly wage: $0.125 \times \$19.50 = \2.4375 (rounded). Now multiply

Pete's hourly wage by 8 hours. $\$2.4375 \times 8 = \19.50 .

203. c. Subtraction and addition will solve this problem. From 10:42 to 12:42 two hours have elapsed. From 12:42 to 1:00, another 18 minutes have elapsed ($60 - 42 = 18$). Then from 1:00 to 1:19, another 19 minutes have elapsed. Now add: 2 hours + 18 minutes + 19 minutes = 2 hours 37 minutes.

204. c. Perform the operation in parentheses first: $14 - 7 = 98$, and then add 12 to get the answer, which is 110.

205. b. Add the feet first, then the inches: 2 feet + 4 feet = 6 feet. 4 inches + 8 inches = 12 inches. Convert 12 inches into 1 foot to get the correct answer 6 feet + 1 foot = 7 feet.

206. d. 17^2 means 17 squared and is equivalent to 17×17 , which equals 289.

207. d. This is a simple division problem with decimals.

208. d. Convert the percent to a decimal, so that it becomes 3.0. Now multiply: $20 \times 3.0 = 60$.

209. b. $1/3x + 3 = 8$. In order to solve the equation, all numbers need to be on one side and all x values on the other. Therefore, $1/3x = 5$; $x = 15$.

210. a. Multiply the whole number by the fraction's denominator. $5 \times 2 = 10$. Add the fraction's numerator to the answer: $1 + 10 = 11$. Now place that answer over the fraction's denominator: $11/2$.

211. d. The sum of the measurements is the perimeter. This is 4 + 5 inches + 2 + 7 inches.

212. b. This is a simple subtraction problem. Be sure to align the decimal points. $99.0 - 97.2 = 1.8$.

213. b. The common denominator of the fractions is 280. The sum of the fractions is $503/280$, or $1\frac{223}{280}$. This unwieldy fraction cannot be reduced further.

214. b. First, change the percent to a decimal: $3\frac{1}{4}\% = 3.25\% = 0.0325$. Now multiply: $30,600 \times 0.0325 = 994.5$. Finally, add: $\$30,600 + 994.50 = \$31,594.50$ for Yetta's current salary.

215. a. The unreduced ratio is 8000:5,000,000; reduced, the ratio is 8:5000. Now divide: $5000 \div 8 = 625$, for a ratio of 1:625.

216. a. Cross-multiplying: $(2x)(48) = (16)(12)$; $96x = 192$. Thus $x = 2$.

217. a. The correct answer is $18\frac{2}{3}$.

218. d. $s = (2 - 8) - (11 - 2)$; $s = 16 - 9$; $s = 7$

219. b. The last digit has to be a 3, which rules out **c**. You can rule out **a** and **d** because of their place value.

220. c. The formula for area is Area = Length × Width, in this case, $64.125 = 9.5 \times \text{Width}$, or 6.75.

221. d. This problem requires both multiplication and addition. First, multiply 2.12 by 1.5 to find the price of the cheddar cheese: $2.12 \times 1.5 = 3.18$. Then add: $2.12 + 2.34 = 5.52$.

222. d. The seller's \$103,000 represents only 93% of the sale price (100% - 7%). The broker's commission is NOT 7% of \$103,000, but rather 7% of the whole sale price. The question is: \$103,000 is 93% of what figure? So, let $x = 103,000/93 = 110,752.68$, rounded to \$110,753.

223. c. This percent problem involves finding the whole when the percent is given. 280,000 is 150% of last month's attendance. Convert 150% to a decimal. $150\% = 1.5$. $280,000 \div 1.5 = 186,666.6666$. Round up to the nearest whole number: 186,667.

224. b. The dimensions of triangle MNO are double those of triangle RST. Line segment RT is 5 cm; therefore line segment MO is 10 cm.

225. c. If the number is represented by n , its double is $2n$. Therefore, $n + 2n = 69$; $3n = 69$; $n = 23$.

226. a. $10 - 3y = 40$; $-3y = 30$; $y = -10$

227. b. The median is merely the number in the middle of the series, which in this case is 12.

228. b. Change the percent to a decimal: 0.35; then, to find the answer, divide: $14 \div 0.35 = 40$.

229. b. Since the 5-inch side and the 2.5-inch side are similar, the second triangle must be larger than the first. The two angles without congruent marks add up to 100 degrees, so $180 - 100 = 80$ degrees. This is the largest angle, so the side opposite it must be largest, in this case side **b**.

230. d. To find what percent one number is of another, first write out an equation. Since $x\% = x/100$ the equation is: $x/100 = 420/1,200$. Cross-multiply: $1,200x = (420)(100)$. Simplify: $x = \frac{42,000}{1,200}$. Thus $x = 35$, which means 35% of the videos are comedies.

231. c. First, convert tons to pounds. 1 ton = 2,000 pounds. 36 tons (per year) = 72,000 pounds (per year). 1 year = 12 months, so the average number of pounds of mosquitoes the colony of bats can consume in a month is: $72,000 \div 12$, or 6,000 pounds.

232. d. We want to know R = helicopter's speed in mph. To solve this problem recall that: Rate \times Time = Distance. It is given that $T = 6:17 - 6:02 = 15$ minutes = 0.25 hour and $D = 20$ miles. Substituting: $R \times 0.25 = 20$. Simplifying: $R = 20 \div 0.25$. Thus $R = 80$ mph.

233. d. The total sales equal the sum of Linda and Jared's sales or: $L + J = 36$. Since Linda sold three less than twice Jared's total, $L = 2J - 3$. The equation $(2J - 3) + J = 36$ models this situation. This gives $3J = 39$; $J = 13$.

234. c. Karl is four times as old as Pam means $K = 4P$, Pam is one-third as old as Jackie means $P = 1/3J$. We are given $J = 18$. Working backwards we have: $P = 1/3(18) = 6$; $K = 4(6) = 24$. The sum of their ages = $K + P + J = 24 + 6 + 18 = 48$.

235. c. Seven is added to both sides of the equation, giving $1.5x = 19.5$. $19.5 \div 1.5 = 13$.

236. b. Area is equal to base times height. $2 \times 4 = 8$.

237. d. Each quilt square is $1/4$ of a square foot; 6 inches is $1/2$ a foot, $0.5 \times 0.5 = 0.25$ of a square foot. Therefore, each square foot of the quilt requires 4 quilt squares. $30 \text{ square feet} \times 4 = 120$ quilt squares.

238. b. Let x = the number sought. 19 more than a certain number is 63 means: $x + 19 = 63$ or $x = 63 - 19$. Thus $x = 44$.

PART 5: LANGUAGE SKILLS

239. a. *Ocean* should be capitalized.

240. d. All the answer choices are correct.

241. b. The contraction *Who's* is incorrect. The correct usage is the possessive *Whose*.

242. b. This sentence contains a shift in number. *Bears* is a plural noun, so the clause should read: *they were growling*.

243. b. The subject and verb do not agree. The subject is plural and requires the plural verb *are*.

244. c. To set off the dialogue, there should be quotation marks before the word *I'll*.

245. d. All the answer choices are correct.

246. a. This sentence contains a double negative.

247. c. The contraction *Three's*, which means *Three is*, is the correct usage.

248. d. All the answer choices are correct.

249. d. All the answer choices are correct.

250. c. *Mayor* should not be capitalized because it does not refer to a particular mayor.

251. d. All the answer choices are correct.

- 252.** b. This sentence has a faulty shift in construction; the word *that* should be omitted from the sentence.
- 253.** b. A semicolon is not used between a dependent and an independent clause. Use a comma or no punctuation.
- 254.** b. *Veterinarian* is not a proper noun and should not be capitalized.
- 255.** a. This sentence has a usage error: *fewer* cookies, not *less* cookies.
- 256.** d. All the answer choices are correct.
- 257.** a. *Between* is only used to refer to two things. *Among* is the correct word to use in this sentence.
- 258.** c. The word *Why*, which begins the quotation, should be capitalized.
- 259.** a. The correct usage is the possessive *theirs*, not *there's*.
- 260.** d. All the answer choices are correct.
- 261.** d. All the answer choices are correct.
- 262.** b. The correct verb form is *has broken*.
- 263.** b. *World War* is a proper noun and should be capitalized.
- 264.** a. The correct verb form is *rang*.
- 265.** a. The phrase *like many other viruses* should be set off by commas because it is a nonessential element in the sentence.
- 266.** d. All the answer choices are correct.
- 267.** b. There is an illogical shift in tense. Both verbs should be in the past tense.
- 268.** a. The pronoun *him* is incorrect. *He* should be used because *you* and *he* are the subjects of the dependent clause.
- 269.** b. The contraction *You're* should be replaced with the possessive *Your*.
- 270.** a. *Industrial Revolution* should be capitalized.
- 271.** c. This sentence makes a shift in person. It should read: The volunteers work as hard as *they* can.
- 272.** b. The verb should agree with *one*, not *boys*; so the singular verb *was* should be used.
- 273.** a. The commas in this sentence should be deleted. Commas are not used in a series when the series is already linked by conjunctions.
- 274.** c. The correct verb form is *has worn*.
- 275.** d. All the answer choices are correct.
- 276.** d. All the answer choices are correct.
- 277.** a. The names of centuries are not capitalized.
- 278.** c. This sentence asks a question and should end with a question mark.
- 279.** b. management
- 280.** b. neighbor
- 281.** c. knives
- 282.** d. All the words are spelled correctly.
- 283.** c. procedures
- 284.** b. immediately
- 285.** c. February
- 286.** a. sensible
- 287.** c. weird
- 288.** d. All the words are spelled correctly.
- 289.** d. This is the only choice that creates a logical statement. The other choices imply a cause/effect that does not exist between the two clauses.
- 290.** b. This is the only choice that makes the sentence a logical statement. The other choices are illogical and can be ruled out because of their awkward construction.
- 291.** a. The other choices are unclear because they are awkwardly constructed, obscuring who intends to set the fire.
- 292.** a. Answers b and c are sentence fragments. Answer d represents confused sentence structure as well as lack of agreement between subject and verb.
- 293.** c. The other choices contain unnecessary shifts in person, from *people* to *their* and *we* in answer

a, to *your* and *one* in answer **b**, and to *our* and *they* in answer **d**.

294. b. This is the only choice that does not have a misplaced modifier. Because Miles Johnson is the sharpshooter, his name should be placed immediately after the introductory phrase—which rules out choices **a** and **c**. Choice **d** is awkwardly constructed and unclear.

295. d. The other choices are much too broad to be adequately covered in a short essay.

296. b. This is the best choice because it is the only one that refers to risks from the sun at high altitudes. Choice **a** has nothing to do with risks from the sun; **c** gives no reference to high altitudes; **d** is about healing, not sun risk.

297. c. This sentence shifts the topic away from Barbara Miller and her dog bakery.

298. d. This is the only logical choice. This new sentence could not logically appear before Sentence 3 because Sentence 3 introduces the oxides and minerals.

Scoring

Find out how you did on this practice exam by counting the number of questions you got right in each part. Remember, questions you skipped or got wrong don't count against your score—only the number of correct answers is important. Then divide the number you got right by the number of questions in the section:

Part 1: Verbal Skills

correct divided by 60 = %

Part 2: Quantitative Skills

correct divided by 52 = %

Part 3: Reading

correct divided by 62 = %

Part 4: Mathematics

correct divided by 64 = %

Part 5: Language Skills

This percentage score is not the same kind of score you will receive when you take the real HSPT. But you can use your percentage score to:

- Compare to your score on the first practice exam and see where you've improved
- Find out where you still have areas of weakness so you can study those areas more thoroughly

If you didn't score as well as you would like, once again be sure to go over the EasySmart Test Preparation System in Chapter 3 to learn how to avoid the main difficulties. Note which parts of the exam gave you the most trouble and concentrate your study on those parts. See the table at the end of Chapter 4 for a list of which parts of the HSPT correspond to which chapters in this book.

The key to success in almost any pursuit is to prepare for all you're worth. By taking the practice exams in this book, you've made yourself better prepared than many of the other students taking the exam with you. You've diagnosed where your strengths and weaknesses lie and learned how to deal with the various kinds of questions that will appear on the test. So go into the exam with confidence, knowing that you're ready and equipped to do your best.

Chapter 14— Practice COOP Exam 2

Chapter Summary

This is the second of the two practice tests in this book based on the COOP exam. Use this test to see how much you've improved.

As you take this practice test, imitate the actual test-taking situation as closely as possible. Find a quiet place, where you won't be interrupted. Tear out the answer sheet on the next page, and gather your number 2 pencil to fill in the circles. Use a timer or stopwatch and allow yourself time as follows:

Test 1: Sequences-20 questions, 15 minutes

Test 2: Analogies-20 questions, 7 minutes

Test 3: Memory-20 questions, 5 minutes

Test 4: Verbal Reasoning-20 questions, 15 minutes

15 minute break

Test 5: Reading Comprehension-40 questions, 40 minutes

Test 6: Mathematics Concepts and Applications-40 questions, 35 minutes

Test 7: Language Expression-40 questions, 30 minutes

After the exam, again use the answer key that follows it to see your progress and to find out why the correct answers are correct and the incorrect ones incorrect. Then use the scoring section at the end of the exam to see your progress and judge how you did overall.

**Test 1—
Sequences**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

**Test 2—
Analogies**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

**Test 3—
Memory**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

**Test 4—
Verbal Reasoning**

1.	(a)	(b)	(c)	(d)
2.	(a)	(b)	(c)	(d)
3.	(a)	(b)	(c)	(d)
4.	(a)	(b)	(c)	(d)
5.	(a)	(b)	(c)	(d)
6.	(a)	(b)	(c)	(d)
7.	(a)	(b)	(c)	(d)

8.	(a)	(b)	(c)	(d)
9.	(a)	(b)	(c)	(d)
10.	(a)	(b)	(c)	(d)
11.	(a)	(b)	(c)	(d)
12.	(a)	(b)	(c)	(d)
13.	(a)	(b)	(c)	(d)
14.	(a)	(b)	(c)	(d)

15.	(a)	(b)	(c)	(d)
16.	(a)	(b)	(c)	(d)
17.	(a)	(b)	(c)	(d)
18.	(a)	(b)	(c)	(d)
19.	(a)	(b)	(c)	(d)
20.	(a)	(b)	(c)	(d)

Test 5—
Reading Comprehension

1. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	15. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	16. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	17. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	18. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	19. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	20. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
14. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Test 6—
Mathematics Concepts and Applications

1. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	15. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	16. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	17. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	18. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	19. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	20. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
14. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Test 7—
Language Expression

1. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	15. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	29. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
2. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	16. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	30. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
3. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	17. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	31. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
4. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	18. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	32. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
5. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	19. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	33. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
6. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	20. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	34. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
7. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	21. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	35. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
8. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	22. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	36. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
9. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	23. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	37. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
10. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	24. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	38. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
11. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	25. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	39. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
12. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	26. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	40. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d
13. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	27. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	
14. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	28. <input type="radio"/> a <input checked="" type="radio"/> b <input type="radio"/> c <input type="radio"/> d	

Definitions for Memory Questions

Take 12 minutes to read, study, and commit to memory the nonsense words and their definitions. (To simulate a real test, have someone read the sentences to you at the beginning or your study.) Later you will be asked to identify the words without referring to their printed definitions.

1. A *dugalu* is a rowboat.
2. An *umquil* is a dictionary.
3. *Prizor* means "to cut."
4. *Zematro* means "instantly."
5. A *laxren* is an attorney.
6. *Fyme* is a pale shade of blue.
7. An *alichin* is a cactus.
8. *Morret* means "to purchase."
9. A *giggenmile* is a library.
10. A *jret* is a ladder.
11. *Neuwir* means "to multiply."
12. An *omoreid* is an unpaved road.
13. *Brexx* means "weather."
14. An *ellinpode* is a reptile.
15. *Quymer* means "to escape."
16. *Cauchow* means "interesting."
17. *Hooma* means "wind."
18. *Khrensil* means "fragile."
19. A *lenc* is a hand-woven rug.
20. A *zormatunl* is a vegetable casserole.

TEST 1: SEQUENCES

You have 15 minutes for this section. Select the answer choice that best completes the sequence given.

1. $\Delta \square \Delta | \square \circ \square | \circ \diamond \circ | \diamond \square -$
 a. b. c. d.

2. $\uparrow \nearrow \rightarrow \downarrow \downarrow \swarrow -$
 a. b. c. d.

3. $-BB|BBB|BBB|BBB -$
 a. b. c. d.

4. $| \sqcap \sqcup | \square \square \square | \sqcup -$
 a. b. c. d.

5. $\blacksquare \blacksquare | \blacksquare \blacksquare | \blacksquare \blacksquare | \blacksquare \blacksquare -$
 a. b. c. d.

6. $\hat{o} \ddot{o} \emptyset \emptyset | \ddot{o} \ddot{o} \emptyset \emptyset | \hat{o} _ \emptyset$
 a. b. c. d.

7. $\oplus \oplus \oplus | \square \square \square \square | \square -$
 a. b. c. d.

8. 3 11 19 | 36 44 52 | 68 __ 84

- a. 60
- b. 72
- c. 76
- d. 92

9. 72 67 61 | 50 55 49 | 38 33 __

- a. 22
- b. 27
- c. 28
- d. 31

10. 44 44 50 | 62 62 68 | 81 __ 87

- a. 74
- b. 81
- c. 84
- d. 93

11. 0.20.40.0016 | 0.30.09 0.0082 | 0.1 0.01 __

- a. 0.0001
- b. 000.1
- c. 0.02
- d. 0.2

12. 234 | 12 13 4 | 22 __ 4

- a. 3
- b. 5
- c. 21
- d. 23

13. 90 30 27 | 12 41 | 279 __

- a. 1
- b. 3
- c. 6
- d. 16

14. 5 7 21 | 10 12 36 | 8 10 _

- a. 12
- b. 24
- c. 28
- d. 30

15. QAR RAS SAT TAU _

- a. UAV
- b. UAT
- c. TAS
- d. TAT

16. DEF DEF₂ DE₂F₂ ___ D₂E₂F₃

- a. DEF₃
- b. D₃EF₃
- c. D₂E₃F
- d. D₂E₂F₂

17. VAB WCD XEF_ZIJ

- a. AKL
- b. UHG
- c. YGH
- d. GHW

18. BOC COB DOE EOD _

- a. FOG
- b. DOG
- c. DOF
- d. FOE

19. LML NON PQP RSR _

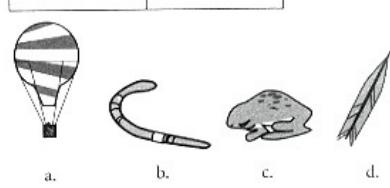
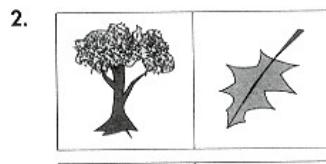
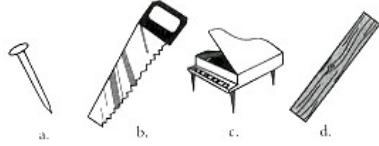
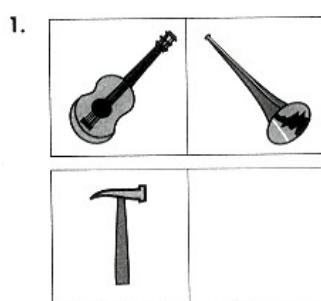
- a. TUT
- b. RTR
- c. STS
- d. TRT

20. ZA₅ Y₄B XC₆ W₃D _

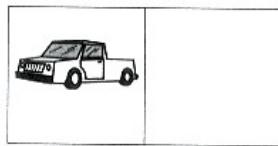
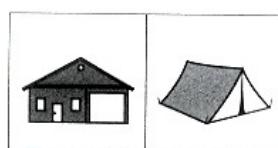
- a. E₇V
- b. V₂E
- c. VE₅
- d. VE₇

TEST 2: ANALOGIES

You have 7 minutes for this section. Choose the picture that would go in the empty box so that the two bottom pictures are related in the same way as the top two are related.



3.



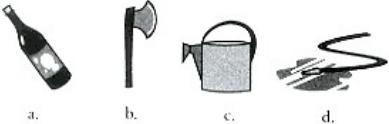
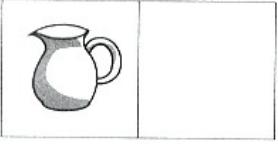
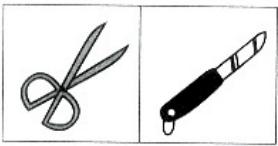
a.

b.

c.

d.

4.



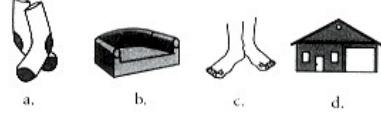
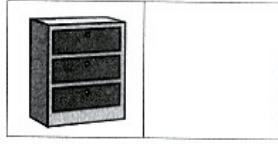
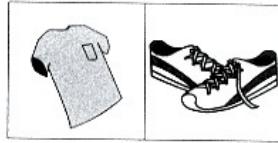
a.

b.

c.

d.

5.



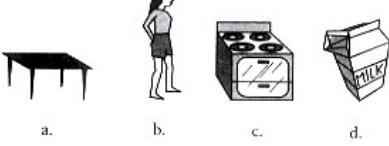
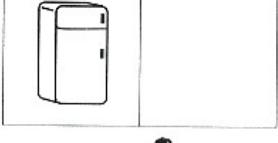
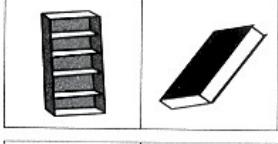
a.

b.

c.

d.

6.

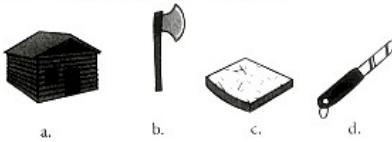
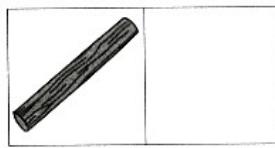
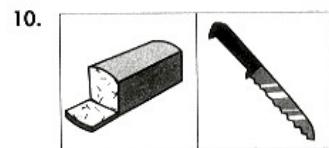
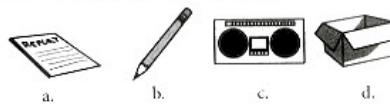
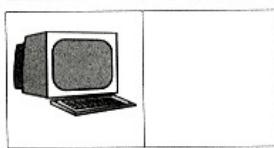
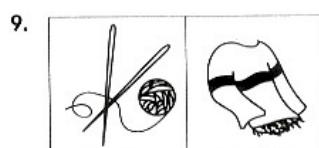
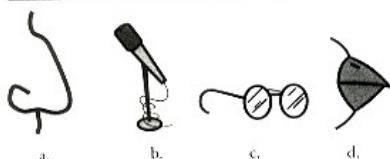
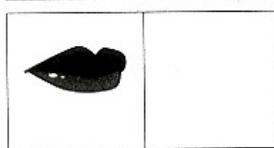
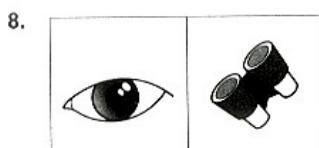
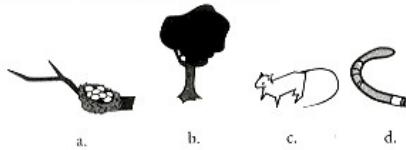
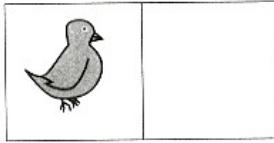
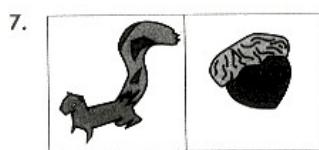


a.

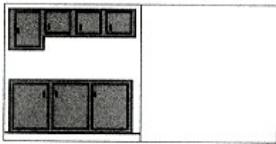
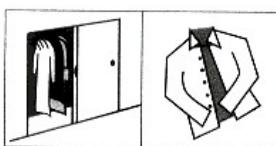
b.

c.

d.



11.



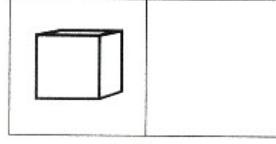
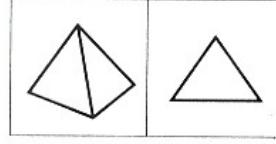
a.

b.

c.

d.

12.



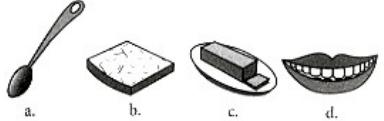
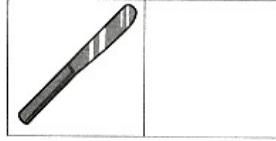
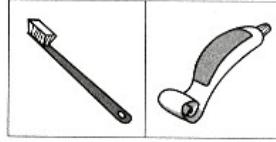
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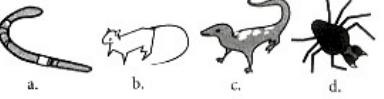
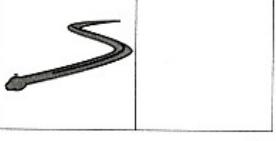
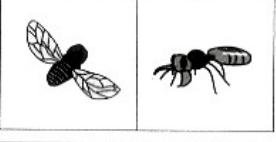
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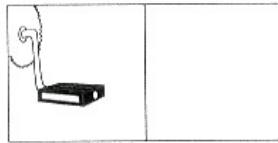
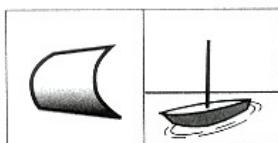
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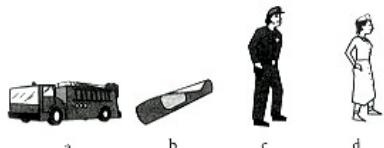
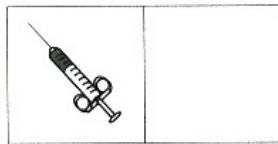
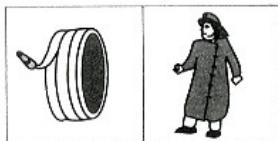
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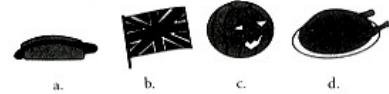
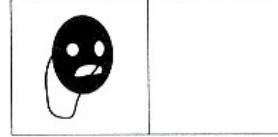
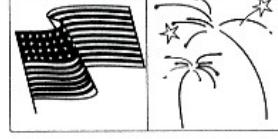
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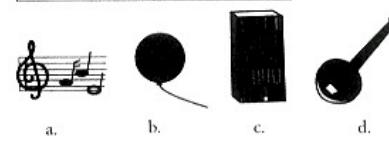
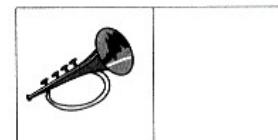
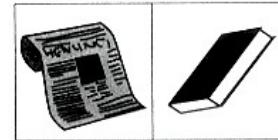
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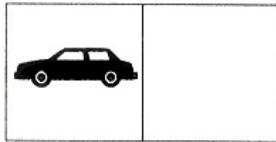
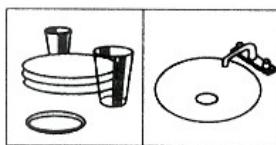
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18.



19.



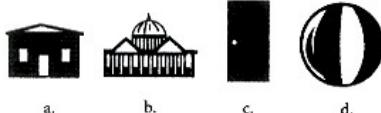
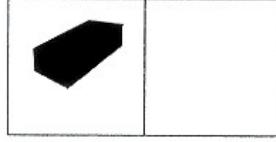
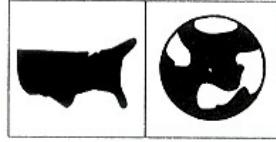
a.

b.

c.

d.

20.



a.

b.

c.

d.

TEST 3: MEMORY

You have 5 minutes for this section. Draw on your memory of the nonsense words you studied at the beginning of the test to answer the following questions. Do not turn back to the list of words.

1. Which word means cactus?

- a. zormatunl
- b. morret
- c. cauchow
- d. alichin

2. Which word means rowboat?

- a. dugalu
- b. umquil
- c. lenc
- d. hooma

3. Which word means to escape?

- a. quymer
- b. morret
- c. prizor
- d. cauchow

4. Which word means hand-woven rug?

- a. khrensil
- b. lenc
- c. hoooma
- d. jret

5. Which word means library?

- a. laxren
- b. umquil
- c. giggenmile
- d. neuwir

6. Which word means instantly?

- a. dugalu
- b. cauchow
- c. khrensil
- d. zematro

7. Which word means vegetable casserole?

- a. fyme
- b. zormatunl
- c. hooma
- d. ellinpode

8. Which word means to multiply?

- a. morret
- b. prizor
- c. neuwir
- d. omoreid

9. Which word means dictionary?

- a. brexx
- b. jret
- c. umquil
- d. alichin

10. Which word means fragile?

- a. khrensil
- b. neuwir
- c. fyme
- d. quymer

11. Which word means ladder?

- a. alichin
- b. jret
- c. giggenmile
- d. zormatunl

12. Which word means attorney?

- a. hooma
- b. omoreid
- c. khrensil
- d. laxren

13. Which word means to purchase?

- a. quymer
- b. prizor
- c. neuwir
- d. morret

14. Which word means reptile?

- a. ellinpode
- b. dugalu
- c. alichin
- d. fyme

15. Which word means weather?

- a. morret
- b. brexx
- c. hooma
- d. giggenmile

16. Which word means interesting?

- a. laxren
- b. prizor
- c. cauchow
- d. jret

17. Which word means unpaved road?

- a. lenc
- b. omoreid
- c. zematro
- d. umquil

18. Which word means a pale shade of blue?

- a. fyme
- b. brexx
- c. neuwir
- d. umquil

19. Which word means to cut?

- a. giggenmile
- b. jret
- c. quymer
- d. prizor

20. Which word means wind?

- a. omoreid
- b. zormaltunl
- c. fyme
- d. hooma

TEST 4: VERBAL REASONING

You have 15 minutes for this section.

For Numbers 1 through 7, find the word that names a necessary part of the underlined word.

1. lake

- a. boats
- b. swimming
- c. water
- d. shore

2. radio

- a. sound
- b. music
- c. antenna
- d. batteries

3. language

- a. tongue
- b. understanding
- c. writing
- d. words

4. desert

- a. cactus
- b. dryness
- c. oasis
- d. flat

5. lightning

- a. electricity
- b. thunder
- c. brightness
- d. rain

6. monopoly

- a. corrupt
- b. exclusive
- c. rich
- d. gigantic

7. tide

- a. river
- b. flood
- c. gravity
- d. current

For Numbers 8 through 13, the words in the top row are related in some way. The words in the bottom row are related in the same way. For each item, find the word that completes the bottom row of words.

8. ant fly bee

hamster squirrel _____

- a. spider
- b. mouse
- c. rodent
- d. cat

9. firefighter ladder hose

veterinarian thermometer _____

- a. stethoscope
- b. kitten
- c. doctor
- d. injury

10. table wood oak

shirt cloth _____

- a. sewing
- b. dress
- c. cotton
- d. tree

11. rule command dictate

doze sleep _____

- a. snore
- b. govern
- c. awaken
- d. hibernate

12. meal banquet feast
 shelter palace _____

- a. mansion
- b. hallway
- c. protection
- d. haven

13. fence wall boundary
 path alley _____

- a. passageway
- b. ramp
- c. airfield
- d. pedestrian

For Numbers 14 through 18, find the statement that is true according to the given information.

14. When they saw that it was snowing, Sheila and Bob Crandall decided to take the train to visit Sheila's Aunt Janet. Aunt Janet lives 218 miles from Sheila and Bob. The round-trip train tickets cost \$32.50 each. On all their other trips to visit Aunt Janet, Sheila and Bob had driven their car.

- a. Aunt Janet persuaded Sheila and Bob to take the train.
- b. For Sheila and Bob, taking the train is cheaper than driving the car.
- c. Sheila and Bob will have to buy four different train tickets.
- d. Based on the weather, Sheila and Bob made a decision to take the train.

15. Seahorse populations have declined everywhere that seahorses are fished. During the past five years, seahorse populations have decreased by 50 percent. Last year, biologists met to discuss what might be done to reverse this trend.

- a. Seahorses are likely to become extinct within five years.
- b. One way to increase seahorse populations is to ban the fishing of seahorses.
- c. Biologists from all over the world are working to save the seahorses.
- d. Seahorse fishermen have spoken out against the biologists.

16. Vincent has a paper route. Each morning he delivers 37 newspapers to customers in his neighborhood. It takes Vincent 50 minutes to deliver all the papers. If Vincent is sick or has other plans, his friend Thomas, who lives on the same street, will sometimes deliver the papers for him.

- a. Vincent and Thomas live in the same neighborhood.
- b. It takes Thomas more than 50 minutes to deliver the papers.
- c. It is dark outside when Vincent begins his deliveries.
- d. Thomas would like to have his own paper route.

17. Georgia is older than her cousin Marsha. Marsha's brother Bart is older than Georgia. When Marsha and Bart are visiting with Georgia, all three like to play a game of Monopoly. Marsha wins more often than Georgia does.

- a. When he plays Monopoly with Marsha and Georgia, Bart often loses.
- b. Of the three, Georgia is the oldest.
- c. Georgia hates to lose at Monopoly.
- d. Of the three, Marsha is the youngest.

18. Ten new television shows appeared during the month of September. Five of the shows were sitcoms; three of the shows were hour-long dramas; and two were news-magazine shows. By January, only seven of these new shows were still on the air. Five of the shows that remained were sitcoms.

- a. Only one of the news-magazine shows remained on the air.
- b. Only one of the hour-long dramas remained on the air.
- c. At least one of the shows that was canceled was an hour-long drama.
- d. Television viewers prefer sitcoms over hour-long dramas.

For Numbers 19 and 20, find the correct answer based on the information given about words from an artificial language.

19. Here are some words translated from an artificial language.

- yoologarn means red dress
glinknara means wagon wheel
yoologlink means red wagon

Which word could mean wheelbarrow?

- a. glinkzwet
- b. garmyoola
- c. yoolabrell
- d. narapluh

20. Here are some words translated from an artificial language.

- jabberlota means pronouncement
ennajabber means mispronounce
ennahavre means misrepresent

Which word could mean appointment?

- a. relmlota
- b. relmjabbber
- c. ennalota
- d. jabbermool

TEST 5: READING COMPREHENSION

You have 40 minutes for this section. For Numbers 1 through 5, read the passage carefully. Then read each item and choose the correct answer.

Cuttlefish are intriguing little animals. The cuttlefish resembles a rather large squid and is, like the octopus, a member of the order of cephalopods. Although they are not considered the most highly evolved of the cephalopods, they are extremely intelligent. While observing them, it is hard to tell who is doing the observing, you or the cuttlefish, especially since the eye of the cuttlefish is very similar in structure to the human eye. Cuttlefish are also highly mobile and fast creatures. They come equipped with a small jet located just below the tentacles that can expel water to help them move. Ribbons of flexible fin on each side of the body allow cuttlefish to hover, move, stop, and start. By far their most intriguing characteristic is their ability to change their body color and pattern.

The cuttlefish is sometimes referred to as the "chameleon of the sea" because it can change its skin color and pattern instantaneously. Masters of camouflage, they can blend into any environment for protection. They are also capable of the most imaginative displays of iridescent, brilliant color and intricate

designs, which scientists believe they use to communicate with each other. However, judging from the riot of ornaments and hues cuttlefish produce, it is hard not to believe they paint themselves so beautifully just for the sheer joy of it. At the very least, cuttlefish conversation must be the most sparkling in all the sea.

1. Which of the following is correct according to the information given in the passage?

- a. Cuttlefish are a type of squid.
- b. Cuttlefish use jet propulsion as one form of locomotion.
- c. The cuttlefish does not have an exoskeleton.
- d. Cuttlefish are the most intelligent cephalopods.

2. The passage suggests that when a cuttlefish is in danger it will most likely

- a. change its color quickly
- b. communicate with other cuttlefish
- c. hover on top of the water
- d. use its tentacles as a means of protection

3. Which of the following best outlines the main topics addressed in the passage?

- a. I. Explanation of why cuttlefish are intriguing

II. Communication skills of cuttlefish

- b. I. Classification and difficulties of observing cuttlefish

II. Scientific explanation of modes of cuttlefish communication

- c. I. Explanation of the cuttlefish's method of locomotion

II. Description of color displays in mating behavior

- d. I. General classification and characteristics of cuttlefish

II. Uses and beauty of the cuttlefish's ability to change color

4. The author's purpose in writing this passage was most likely to

- a. prove the intelligence of cuttlefish
- b. explain the communication habits of cuttlefish
- c. produce a fanciful description of the "chameleon of the sea"
- d. describe the "chameleon of the sea" informatively and entertainingly

5. Which of the following is NOT a characteristic of cuttlefish, according to the passage?

- a. They have fins.
- b. They can move quickly.
- c. They can see better than humans do.
- d. They can change the pattern of their skin.

For Numbers 6 through 9, read the passage carefully. Then read each item and choose the correct answer.

Restaurant Review

Yesterday I was exposed to what has been called "a dining experience like no other." At lunch time, Dilly's Deli is so crowded that I wondered when the fire marshal had last visited the establishment. The line snaked out the door to the corner, and by the time I reached the counter, I was freezing. I decided on the hamburger steak special, the other specials being liver and onions and tuna casserole. Each special is offered with two side dishes, but there was no potato salad left and the green beans were cooked nearly beyond recognition. I chose the gelatin of the day and what turned out to be the blandest coleslaw I have ever eaten.

At Dilly's you sit at one of the four long tables. The couple sitting across from me was having an argument. The truck driver sitting next to me told me more than I wanted to know about highway taxes. After I had tasted each of the dishes on my plate, I rose to leave, whereupon one of the people working behind the counter

yelled at me to clean up after myself. Throwing away that plate of food was the most enjoyable part of dining at Dilly's.

6. If you go to lunch at Dilly's Deli, you could expect to see

- a. a long line of customers
- b. the fire marshal
- c. the restaurant critic from the newspaper
- d. homemade pie

7. The passage suggests that if you eat lunch at Dilly's Deli, you should expect to

- a. sit next to a truck driver
- b. place your order with the waiter who comes to your table
- c. dress warmly
- d. carry your own food to your table

8. Which of the following statements from the passage illustrates the author's opinion of the food at Dilly's Deli?

- a. At Dilly's you sit at one of the four long tables.
- b. At lunch-time, Dilly's is so crowded, I wondered when the fire marshal had last visited the establishment.
- c. After I had tasted each of the dishes on my plate, I rose to leave, whereupon one of the people working behind the counter yelled at me to clean up after myself.
- d. Throwing away that plate of food was the most enjoyable part of dining at Dilly's.

9. The main purpose of the restaurant review is to

- a. tell people they probably don't want to eat at Dilly's Deli
- b. make fun of couples who argue in public
- c. recommend the hamburger steak special
- d. warn people that Dilly's Deli tends to be crowded

For Numbers 10 through 15, read the passage carefully. Then read each item and choose the correct answer.

Although more and more people are exercising regularly, experts note that eating right is also a key to good health. Nutritionists recommend the "food pyramid" for a simple guide to eating the proper foods. At the base of the food pyramid are grains and fiber. You should eat six to eleven servings of bread, cereal, rice and pasta everyday. Next up the pyramid are vegetables and fruit; five to nine daily servings from this group are recommended. The next pyramid level is the dairy group. Two or three servings a day of milk, yogurt or cheese help maintain good nutrition. Moving up the pyramid, the next level is the meat, poultry, fish, beans, eggs, and nuts group, of which everyone should eat only two to three servings a day. At the very top of the pyramid are fats, oils and sweets; these foods should be eaten only infrequently.

One easy way to plan menus that follow the food pyramid is to shop only in the outer aisles of the grocery store. In most supermarkets, fresh fruit and vegetables, dairy, fresh meat and frozen foods are in the outer aisles of the store. Grains, like pasta, rice, bread, and cereal, are located on the next aisles, the first inner rows. Finally, the farthest inside of the store is where you'll find chips and snacks, cookies, pastries, and soda pop. If you stay in the outer aisles of the grocery store, you won't be tempted to buy foods you shouldn't eat, and you will find a wide variety of healthy foods.

Another benefit of shopping this way is that grocery shopping takes less time.

10. A good title for this article would be

- a. "How to Shop in a Health Food Store"
- b. "How to Shop Efficiently"
- c. "How to Shop for Healthy Food"
- d. "How to Cook Healthy Food"

11. According to the passage, the best way to shop in the grocery store is to

- a. make a list and stick to it
- b. stay in the outside aisles
- c. stay in the inside aisles
- d. check the newspaper ads for bargains

12. According to the food pyramid, people should

- a. eat more grains than meat
- b. never eat fats and sweets
- c. eat mostly vegetarian meals
- d. rarely eat bread and other starches

13. According to the passage, on the inside aisles of the grocery store you would most likely find which of the following?

- a. eggs
- b. bananas
- c. bread
- d. potato chips

14. According to the passage, to maintain good health, people should

- a. buy their food in health food stores
- b. worry more about nutrition than exercise
- c. exercise and eat right
- d. eat from the top of the food pyramid

For Numbers 15 through 20, read the passage carefully. Then read each item and choose the correct answer.

Milton Hershey was born near the small village of Derry Church, Pennsylvania, in 1857. It was a modest beginning; Milton only attended school through the fourth grade, at which point, he was apprenticed to a printer in a nearby town. Fortunately for all chocolate lovers, Milton did not excel as a printer. After a while, he left the printing business and was apprenticed to a Lancaster, Pennsylvania, candy maker. It was apparent he had found his calling in life and, at the age of eighteen, he opened his own candy store in Philadelphia. In spite of his talents as a candy maker, however, the shop failed after six years.

After the failure of his store, Milton headed for Denver, where he learned the art of making caramels. There, he saw that using fresh milk made the caramels especially tasty. After a time in Denver, Milton once again made several attempts to open his own candymaking businesses. Finally, in 1886, he went to Lancaster, Pennsylvania, where he raised enough money to open the "Lancaster Caramel Company."

In 1893, Milton attended the Chicago International Exposition, where he saw a display of German chocolate-making implements. Captivated by the equipment, he purchased it for his candy factory and began producing chocolate, which he used for coating his caramels. By the next year, production had grown to include cocoa, sweet chocolate, and baking chocolate. The Hershey Chocolate Company was born in 1894 as a subsidiary of the Lancaster Caramel Company.

Milton returned to the village where he had been born. He opened his chocolate manufacturing plant and began producing the finest milk chocolate. The plant that opened in 1905, in a small Pennsylvania village now known as Hershey, Pennsylvania, is today the largest chocolate factory in the world.

15. Based on the passage, which of the following statements is accurate?

- a. Chocolate is popular in every country in the world.
- b. The Hershey Chocolate Company's factory is near Derry Church, Pennsylvania.
- c. Chocolate had never been manufactured in the U.S. before Milton Hershey did it.
- d. The Hershey Chocolate Company is run by Milton Hershey's children.

16. The writer's main purpose in this passage is to

- a. recount the founding of the Hershey Chocolate Company describe the process of manufacturing
- b. chocolate compare the popularity of chocolate to
- c. other candies
- d. explain how apprenticeships work

17. Which of the following words best describes Milton Hershey's character, as he is presented in the passage?

- a. defective
- b. determined
- c. carefree
- d. cautious

18. According to the passage, Milton Hershey first began to produce chocolate in order to

- a. make cocoa and baking chocolate
- b. save his caramel company from bankruptcy
- c. make chocolate-covered caramels
- d. attend the Chicago International Exposition

19. Which of the following best defines the word subsidiary as used in the third paragraph?

- a. a company owned entirely by one person
- b. a company founded to support another company
- c. a company that is not incorporated
- d. a company controlled by another company

20. The passage implies that Hershey opened his first chocolate company in

- a. Chicago
- b. Denver
- c. Philadelphia
- d. Lancaster

For Numbers 21 through 24, read the passage carefully. Then read each item and choose the correct answer.

The Woodstock Music and Art Fair, better known to its participants and to history simply as "Woodstock," should have been a colossal failure. Just a month prior to its August 15, 1969, opening, the fair's organizers were informed by the council of Wallkill, New York, that permission to hold the festival was withdrawn. Amazingly, not only was a new site found, but word got out to the public of the fair's new location.

At the new site, fences that were supposed to facilitate ticket collection never materialized, and all attempts at gathering tickets were abandoned. Crowd estimates of 30,000 kept rising. By the end of the three days, some estimated the crowd at 500,000. And then, on opening night, it began to rain. Off and on, throughout all three days, huge summer storms rolled over the gathering. In spite of these problems, most people think of Woodstock not only as a fond memory but as the defining moment for the entire "sixties' generation."

21. Which of the following would be the most appropriate title for this passage?

- a. "Backstage at Woodstock"
- b. "Living in the Sixties"
- c. "Remembering Woodstock"
- d. "Woodstock: The Colossal Failure"

22. Which of the following statements from the passage best represents an opinion rather than a fact?

- a. "Woodstock" should have been a colossal failure.
- b. All attempts at gathering tickets were abandoned.
- c. Crowd estimates of 30,000 kept rising.
- d. On opening night, it began to rain.

23. According to the passage, tickets were not collected at Woodstock because

- a. no people volunteered to take tickets
- b. it rained off and on for three days
- c. tickets were never printed
- d. there were no fences to hold people back

24. Why is the word amazingly used in the third sentence?

- a. because the time in which the move was made and word sent out was so short
- b. because the fair drew such an unexpectedly enormous crowd
- c. because there was such pressure by New York officials against holding the fair
- d. because the stormy weather was so unfavorable

For Numbers 25 through 28, read the passage carefully. Then read each item and choose the correct answer.

In October of 1993, a disastrous wildfire swept across portions of Charlesburg. Three hundred homes were destroyed, and 19,500 acres burned. A public safety task force was formed to review emergency response. The task force findings were as follows:

- The water supply in the residential areas was insufficient, and some hydrants could not even be opened. The task force recommended a review of hydrant inspection policy.
- Fire companies that responded had difficulty locating specific sites. Most came from other areas and were not familiar with Charlesburg. The available maps were outdated and did not reflect recent housing developments.
- Evacuation procedures were inadequate. Residents reported being given conflicting and/or confusing information. Some residents of the Hilltop Estates subdivision ignored mandatory evacuation orders, yet others were praised for their cooperation.
- Firefighters reported a number of items that contributed to the spread of the fires. Some homes were lost long after the fire had passed through, because dried undergrowth nearby caught fire and slowly spread.
- Homeowners had not been sufficiently educated on emergency preparedness. Many residents underestimated hazards such as shifting winds, poor visibility due to smoke, and the speed with which fire spreads.

25. According to the passage, why did some fire companies have difficulty adequately responding to the Charlesburg fire?

- a. Visibility was poor, due to smoke.
- b. They were inexperienced firefighters.
- c. They lacked knowledge about Charlesburg streets.
- d. There was no water with which to fight the fire.

26. According to the passage, which of the following was a specific task force recommendation?

- a. Evacuation shelters should be better supplied.
- b. Residents of Hilltop Estates should be reprimanded.
- c. Outdated maps should be destroyed.
- d. Hydrant inspection procedures should be reexamined.

27. One reason for confusion among some homeowners was that

- a. they lacked adequate guidance on emergency procedures
- b. their subdivisions were not included on emergency maps
- c. they could not locate emergency shelters
- d. they misunderstood hydrant inspection policy

28. Which of the following is NOT included in this passage?

- a. the reason some homes burned after the main fire had swept through
- b. statistics based on the aftermath of the fire
- c. when the fire occurred
- d. the home cities of other fire departments who responded

For Numbers 29 through 34, read the passage carefully. Then read each item and choose the correct answer.

For perhaps the fourth time since the clock struck two, Sylvia crosses to the front-facing window of her apartment, pulls back the curtain and looks down at the street. Although people hurry along the sidewalk, she sees no one enter her building.

She walks back to the center of the living room, where she stands twisting a silver bracelet around and around on her wrist. She is an attractive young woman with a narrow and delicate face, but she is restless now, because she is being kept waiting. It is nearly two-thirty; a woman named Lola Parrish was to come at two o'clock to look at the apartment.

She considers leaving a note and going out. The woman is late, after all, and besides, Sylvia is certain that Lola Parrish will not be a suitable person with whom to share the apartment. On the phone she had sounded too old, for one thing, and her voice was oddly flat. However, the moment for saying the apartment was no longer available slipped past, and Sylvia found herself agreeing to the two o'clock appointment. If she leaves now, as she has a perfect right to do, she can avoid the awkwardness of turning the woman away.

She walks back to the center of the room, aware now that the idea of sharing the apartment, never appealing, was born of necessity. She knows she will have to become accustomed to the notion, because her savings are nearly gone. She has a job, but it does not pay well. Once the roommate situation is resolved, however, she will consider taking another job, perhaps something connected with music. In her childhood she had loved to play the flute, and people had said she was gifted.

29. Which of the following adjectives best describes Sylvia's mood as depicted in the first three paragraphs?

- a. anxious
- b. angry
- c. meditative
- d. serene

30. Based on the passage, which of the following is the most likely reason Sylvia is looking for someone to share her apartment?

- a. She is lonely and wants company.
- b. She is bored with her job.
- c. She needs someone to help pay the rent.
- d. She is hoping to find someone who will share her interest in music.

31. The passage suggests that when Sylvia looks out her window, she is

- a. concerned that someone will see her
- b. worried about the weather
- c. looking at a clock across the street
- d. looking for Lola to enter the building

32. The passage suggests that Sylvia has skill and talent as

- a. a musician
- b. an apartment manager
- c. an office manager
- d. a decorator

33. The details in the third paragraph illustrate that Sylvia is

- a. excited about meeting and interviewing Lola
- b. having trouble deciding if she should leave the apartment or wait longer
- c. upset that she did not set the appointment with Lola for a later time
- d. thinking about moving out of her present apartment

34. The last two sentences mark a change in the tone of this passage from

- a. cheerful to peaceful
- b. sentimental to realistic
- c. stressful to hopeful
- d. magical to charming

For Numbers 35 and 36, read the passage carefully. Then read each item and choose the correct answer.

Light pollution is a growing problem worldwide. Like other forms of pollution, light pollution degrades the quality of the environment. Where once it was possible to look up at the night sky and see thousands of twinkling stars in the inky blackness, one now sees little more than the yellow glare of urban sky glow. When we lose the ability to connect visually with the vastness of the universe by looking up at the night sky, we lose our connection with something profoundly important to the human spirit, our sense of wonder.

35. The author's main purpose in writing this passage is most likely to

- a. give reasons why light pollution is occurring worldwide
- b. persuade readers that light pollution may change the quality of their lives
- c. persuade readers to try star gazing
- d. persuade readers to leave urban areas

36. The passage implies that the most serious damage done by light pollution is to our

- a. artistic appreciation
- b. sense of physical well-being
- c. cultural advancement
- d. spiritual selves

For Numbers 37 through 40., read the passage carefully. Then read each item and choose the correct answer.

Businesses today routinely keep track of large amounts of both financial and non-financial information. Sales departments keep track of current and potential customers; marketing departments keep track of product details and regional demographics; accounting departments keep track of financial data and issue reports. To be useful, all this data must be organized into a meaningful and useful system. Such a system is called a management information system, abbreviated MIS. The financial hub of the MIS is accounting.

Accounting is the information system that records, analyzes, and reports economic transactions, enabling decision-makers to make informed choices when dividing up scarce economic resources. It is a tool that enables the user, whether a business entity or an individual, to make wiser, more informed economic choices. It is an aid to planning, controlling, and evaluating a broad range of activities. A financial accounting system is intended for use by both the management of an organization and those outside the organization. Because it is important that financial accounting reports be interpreted correctly, financial accounting is subject to a set of stringent guidelines called "generally accepted accounting principles" (GAAP).

37. The title that best expresses the main focus of this passage is

- a. "How To Make More Informed Financial Choices"
- b. "The Financial Hub of the MIS"
- c. "Accounting Systems for the Future"
- d. "Accepted Accounting Principles"

38. This passage is most likely taken from

- a. a newspaper column
- b. a business textbook
- c. a personal essay
- d. a government document

39. According to the information in the passage, which of the following is LEAST likely to be a function of accounting?

- a. helping businesspeople make sound judgments
- b. assisting with the marketing of products
- c. producing reports of many different kinds of transactions
- d. assisting companies in important planning activities

40. The underlined term economic resources most likely refers to

- a. money
- b. a bank
- c. the workers in a company
- d. natural materials that are used to make products

TEST 6: MATHEMATICS CONCEPTS AND APPLICATIONS

You have 35 minutes for this section. For Numbers 1 through 40, read each problem and find the answer.

1. What is another way to write $4 \cdot 4 \cdot 4$?

- a. 3^4
- b. 8^4
- c. 4^3
- d. 3^4

2. What is the square root of 64?

- a. 16
- b. 12
- c. 8
- d. 6

3. $1 \text{ hour } 20 \text{ minutes} + 3 \text{ hours } 30 \text{ minutes} =$

- a. 4 hours
- b. 4 hours 20 minutes
- c. 4 hours 50 minutes
- d. 5 hours

4. What is the estimated product when 157 and 817 are rounded to the nearest hundred and multiplied?

- a. 160,000
- b. 180,000
- c. 16,000
- d. 80,000

5. $-3^3 =$

- a. -9
- b. 9
- c. -27
- d. 27

6. Change this improper fraction to a mixed number: $15/2$.

- a. 8
- b. $7\frac{1}{2}$
- c. 7
- d. $6\frac{1}{2}$

7. Hans has $\frac{5}{2}$ pounds of sugar. He wants to make cookies for his son's kindergarten class. The cookie recipe calls for $\frac{2}{3}$ pound of sugar per dozen cookies. How many dozen cookies can he make?

- a. $6\frac{1}{3}$ dozen cookies
- b. $7\frac{1}{5}$ dozen cookies
- c. $8\frac{1}{4}$ dozen cookies
- d. $9\frac{1}{2}$ dozen cookies

8. $-4 - (-6) =$

- a. -10
- b. 10
- c. -24
- d. 24

9. A supermarket offers 25% off all pumpkins one day, just before Halloween. If a certain pumpkin is sale-priced at \$4.20, what was the original price?

- a. \$5.62
- b. \$5.60
- c. \$5.58
- d. \$5.56

10. A 600-page book is 1.5 inches thick. What is the thickness of each page?

- a. 0.0010 inches
- b. 0.0030 inches
- c. 0.0025 inches
- d. 0.0600 inches

11. Which number sentence is true?

- a. $0.43 < 0.043$
- b. $0.0043 > 0.43$
- c. $0.00043 > 0.043$
- d. $0.043 > 0.0043$

12. What is 0.716 rounded to the nearest tenth?

- a. 0.7
- b. 0.8
- c. 0.72
- d. 1.00

13. What is the decimal 0.0008 written out in words?

- a. eight tenths
- b. eight hundredths
- c. eight thousandths
- d. eight ten-thousandths

14. Ten students from the 250-student senior class at Jefferson High School have received full college scholarships. What percent of the senior class received full college scholarships?

- a. 2%
- b. 4%
- c. 10%
- d. 25%

15. How many feet of ribbon will a theatrical company need to tie off a performance area that is 34 feet long and 20 feet wide?

- a. 54
- b. 68
- c. 88
- d. 108

16. Which of the following is three consecutive even integers whose sum is 30?

- a. 9,10,11
- b. 8,10,12
- c. 9,11,13
- d. 10,12,14

17. If $x = 6$, $y = -2$, and $z = 3$, what is the value of the following expression?

- a. $-2/3$
- b. $2/3$
- c. $3\frac{1}{3}$
- d. 5

18. When the product of three and a number is taken away from the sum of that number and six, the result is zero. What is the number?

- a. 3
- b. 7
- c. 9
- d. 14

19. An acute angle is

- a. 180 degrees
- b. greater than 90 degrees
- c. 90 degrees
- d. less than 90 degrees

20. Which of the following statements is true?

- a. Parallel lines intersect at right angles.
- b. Parallel lines never intersect.
- c. Perpendicular lines never intersect.
- d. Intersecting lines have two points in common.

21. A truck is carrying 1,000 television sets; each set weighs 21.48 pounds. What is the total weight, in pounds, of the entire load?

- a. 214.8
- b. 2,148
- c. 21,480
- d. 214,800

22. Luis is mailing two packages. One weighs 12.9 pounds and the other weighs half as much. What is the total weight in pounds of the two packages?

- a. 6.45
- b. 12.8
- c. 18.5
- d. 19.35

23. 26% converted to a decimal is equal to

- a. 0.0026
- b. 0.026
- c. 0.26
- d. 2.6

24. Which of the following is 14% of 232?

- a. 3.248
- b. 32.48
- c. 16.57
- d. 165.7

25. According to the table below, what was Lubbock's production in the month of April?

PRODUCTION OF FARM-IT TRACTORS FOR THE MONTH OF APRIL	
Factory	April Output
Dallas	450
Houston	425
Lubbock	
Amarillo	345
TOTAL	1,780

- a. 345
- b. 415
- c. 540
- d. 560

26. What is the perimeter of a pentagon with three sides of 3 inches, and the remaining sides 5 inches long?

- a. 19 inches
- b. 9 inches
- c. 14 inches
- d. 12 inches

27. Joline gave $\frac{1}{2}$ of her sandwich to Eddie at lunchtime, and ate $\frac{1}{3}$ of it herself. How much of the sandwich did she have left?

- a. $\frac{1}{6}$
- b. $\frac{3}{5}$
- c. $\frac{4}{5}$
- d. $\frac{5}{6}$

28. Which of these has a 9 in the thousandths place?

- a. 3.0095
- b. 3.0905
- c. 3.9005
- d. 3.0059

29. My greyhound, Zelda, can run 35.25 miles an hour, while my cat, Spot, can run only $\frac{1}{4}$ that fast. About how many miles per hour can Spot run?

- a. 8.25 miles per hour
- b. 8.77 miles per hour
- c. 8.81 miles per hour
- d. 9.11 miles per hour

30. Convert $\frac{7}{100}$ to a percentage.

- a. 0.0175%
- b. 0.175%
- c. 1.75%
- d. 17.5%

31. Twelve times one-half of a number is thirty-six. What is the number?

- a. 3
- b. 6
- c. 8
- d. 18

32. A group of volunteers is searching for a lost camper within a 45-mile radius of the forest ranger's station. What is the size of the search area, in square miles?

- a. 282.6 square miles
- b. 2,025 square miles
- c. 6,358.5 square miles
- d. 12,717 square miles

33. Generic oatmeal costs $\frac{2}{3}$ the price of the leading name brand. If the generic brand is \$1.50, how much does the name brand cost?

- a. \$1.00
- b. \$1.75
- c. \$2.00
- d. \$2.25

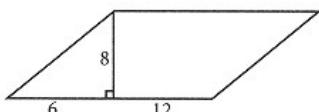
34. From a 100-foot ball of string, Randy cuts three pieces of the following lengths: 5.8 feet, 3.2 feet, 4.4 feet. How many feet of string are left?

- a. 66
- b. 86.6
- c. 87.6
- d. 97.6

35. Which of the following is between $\frac{1}{3}$ and $\frac{1}{4}$?

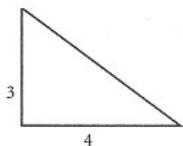
- a. $\frac{1}{5}$
- b. $\frac{2}{3}$
- c. $\frac{2}{5}$
- d. $\frac{2}{7}$

36. What is the perimeter of the parallelogram shown below?



- a. 26
- b. 32
- c. 48
- d. 56

37. What is the perimeter of the right triangle shown below?



- a. 12
- b. 9
- c. 8
- d. 7

38. You can quickly figure a 20% tip on a restaurant bill of \$18 by

- a. multiplying 18 \times 20, then rounding down
- b. multiplying 18 \times 20
- c. multiplying 18 \times 2, then moving the decimal over one space to the left
- d. multiplying 18 \times 1/2 and rounding up

39. Which value of x will make the following inequality true?

$$3x - 14 < 3$$

- a. 4
- b. 6
- c. 8
- d. 10

40. A triangle has two congruent sides, and the measure of one angle is 40 degrees. Which of the following types of triangles is it?

- a. isosceles
- b. equilateral
- c. right
- d. scalene

TEST 7: LANGUAGE EXPRESSION

You have 30 minutes (or this section. For Numbers 1 through 9, choose the word or phrase that best fits in the blank to make a clear and correct sentence.

1. _____ strip mining is the cheapest method of mining, it is often harmful to the environment.

- a. Besides
- b. Unless
- c. Nevertheless
- d. Although

2. Yuri had a bad cold. _____, he decided not to go to the movie with us.

- a. Therefore
- b. Meanwhile
- c. However
- d. Anyway

3. _____ she waited for the bus to arrive, Julia sat on the bench and read her book.

- a. So that
- b. While
- c. Even if
- d. Besides when

4. My mother likes rock music. _____ it is played at a low volume.

- a. because
- b. whether
- c. when
- d. as if

5. The cake I made last week tasted. _____ than the one I made today.

- a. best
- b. more better
- c. better
- d. more good

6. After winning the yo-yo contest, Lydia skipped _____ down the street.

- a. happy
- b. happiest
- c. more happily
- d. happily

7. On Wednesday, Jamal and Jennifer were called to the principal's office and praised for helping a student who _____ on the icy sidewalk.

- a. falls
- b. would fall
- c. had fallen
- d. has fallen

8. While trying to _____ his pet iguana from a tree, Travis Stevens fell and broke his ankle.

- a. rescue
- b. have rescued
- c. be rescuing
- d. rescuing

9. The people who bought this old lamp at the

auction_____foolish.

- a. was
- b. were
- c. is
- d. has been

For Numbers 10 through 14, choose the sentence that is complete and that is correctly written.

10. a. A longer, happier life, caused by owning a pet.

- b. Owning a pet, for one to live a longer, happier life.
- c. To live a longer, happier life by one's owning a pet.
- d. Owning a pet can help one live a longer, happier life.

11. a. I don't like fish as well as my sister does.

- b. I don't like fish my sister does like it.
- c. Fish isn't liked by me as well as my sister.
- d. My sister likes it, but I don't like fish as well.

12. a. One of the first modern detectives in literature were created by Edgar Allan Poe.

- b. One of the first modern detectives in literature was created by Edgar Allan Poe.
- c. Edgar Allan Poe having created one of the first modern detectives in literature.
- d. In literature, one of the first modern detectives, created by Edgar Allan Poe.

13. a. Once the investigation begins, and there will be no turning back.

- b. Once the investigation begins, there will be no turning back.
- c. Once the investigation begins, so there will be no turning back.
- d. Once the investigation begins, thus there will be no turning back.

14. a. Though often romanticized in movies, the lives of criminals are bleak and unrewarding.

- b. The lives of criminals are bleak and unrewarding; however, it is often romanticized in movies.
- c. Movies often romanticize the life of the criminal; however, they are bleak and unrewarding.
- d. Bleak and unrewarding, movies often romanticize the lives of criminals.

For Numbers 15 through 19, choose the sentence that uses verbs correctly.

15. a. Because the evidence had been improperly gathered, the case was dismissed.

- b. When her workday is over, Doctor Beasley liked to watch TV, preferring sitcoms to hospital shows.
- c. Officer Chen thought they should call for backup, but Officer Jovanovich disagrees.
- d. When Jury members are sequestered for months, they are becoming impatient with both prosecution and defense.

- 16.** a. After Elton washed and dried the dishes, he asks Paul if he will put them away.
 b. The first baby that is born at Community Hospital this year had received gifts from the merchants in town.
 c. The weather in January is usually cold and snowy, but today it is sunny and warm.
 d. When I play the radio too loudly, my mother asked me to please turn it down.

- 17.** a. When I go shopping at the mall, I had brought along a shopping list.
 b. He was late for class, and his teacher doesn't like it.
 c. The state wants to pass a law that had preserved its covered bridges.
 d. The Thrift Store opens tomorrow, and it will sell all kinds of used merchandise.

- 18.** a. The customers complain to the manager, but the manager refused to give them their money back.
 b. If you park your car on the left side of the street, you may get a ticket.
 c. Be careful when you went down those steep steps.
 d. When the phone rang, Judy just sits there and didn't answer it.

- 19.** a. They told us that the computer was fixed and that we would pick it up tomorrow.
 b. Call me back at four o'clock, and I have given you an answer by then.
 c. We stopped to see the house where my mother has been born.
 d. Although rain is predicted for the weekend, we are still planning to go to the beach.

For Numbers 20 through 22, choose the underlined part that is the simple subject of the sentence.

- 20.** Kate has just learned that she will receive a

- a. b. c.
well-deserved promotion.
 d.

- 21.** Late last summer, a tropical storm blew over

- a. b.
 the island, knocking out power for several days.
 c. d.

- 22.** Tired of driving, Jonathan pulled his car into

- a. b. c.
 a rest stop and took a twenty-minute nap.
 d.

For Numbers 23 through 25, choose the underlined part that is the simple predicate (verb) of the sentence.

- 23.** Of all the dogs in the K-9 Corps, Zelda is

- a. b. c.
 the bravest.
 d.

- 24.** Because it is such a realistic portrayal of

- a. b.
 teenage passion, Romeo and Juliet never fails
 c.
 to amaze me.
 d.

- 25.** Although the principal had expected an

- a. b.
 uproar when he canceled the senior class trip,
 c.
 the students seemed apathetic.
 d.

For Numbers 26 through 30, read the underlined sentences. Choose the sentence that best combines those sentences into one.

26. Maya is an intelligent woman.

Maya cannot read or write.

- a. Maya cannot read or write, while she is an intelligent woman.
- b. Although Maya cannot read or write, she is an intelligent woman.
- c. Maya cannot read or write being an intelligent woman.
- d. Being an intelligent woman, Maya cannot

read or write.

27. This area of the country is called "tornado alley."

Many tornadoes roar through here every spring.

- a. Many tornadoes roar through here every spring, while this area of the country is called "tornado alley."
- b. Many tornadoes roar through here every spring, but this area of the country is called "tornado alley."
- c. Many tornadoes roar through here every spring; therefore, this area of the country is called "tornado alley."
- d. This area of the country is called "tornado alley"; meanwhile, many tornadoes roar through here every spring.

28. Mr. Markley has an unpleasant personality.

Mr. Markley is a crook.

- a. Mr. Markley has an unpleasant personality, and furthermore he's a crook.
- b. Mr. Markley has an unpleasant personality, although he is a crook.
- c. While he is a crook, Mr. Markley has an unpleasant personality.
- d. Being a crook, Mr. Markley has an unpleasant personality.

29. Yoga is a system of exercises.

Yoga is designed to give you mental and physical well-being.

- a. Yoga is designed to give you mental and physical well-being when it is a system of exercises.
- b. Yoga is a system of exercises that is designed to give you mental and physical well-being.
- c. Yoga is a system of exercises; however, it is designed to give you mental and physical well-being.
- d. As a system of exercises, the design of yoga is a result of giving you physical and mental well-being.

30. Many different species of dinosaurs once roamed the earth.

Dinosaurs became extinct more than 65 million years ago.

- a. Becoming extinct more than 65 million years ago, around the earth there roamed many different species of dinosaurs once.
- b. Once they were extinct 65 million years ago, many different species of dinosaurs roamed the earth.
- c. Dinosaurs became extinct more than 65 million years ago; consequently, many different species of them once roamed the earth.
- d. Although many different species of dinosaurs once roamed the earth, they became extinct more than 65 million years ago.

For Numbers 31 through 33, choose the topic sentence that best fits the paragraph.

31. _____ Residents have been directed to use the new plastic bins as their primary recycling containers. These new containers will make picking up recyclables faster and easier.

- a. The city has distributed standardized recycling containers to all households.
- b. Recycling has become a way of life for most people.
- c. While most Americans recycle, they also use more resources than residents of other countries.
- d. Even small cities have begun recycling to pick up used glass, plastic, and paper.

32. _____ Telecommuters produce, on average, 20% more than if they were to work in an office. Their flexible schedule allows them to balance both their family and work responsibilities.

- a. People who work in offices make up a large part of the U.S. work force.
- b. Office workers who telecommute from their own homes are more productive and have greater flexibility.
- c. Many companies now offer their employees benefits that were not available just a few years ago.
- d. One of the biggest problems in corporate America is the lack of skilled office workers.

33. _____ No search of a person's home or personal effects may be conducted without a written search warrant. This means that a judge must justify a search before it can be conducted.

- a. There is an old saying that a person's home is his or her castle.
- b. Much of the U.S. legal system was based on the old British system.
- c. The Fourth Amendment to the Constitution protects citizens against unreasonable searches.
- d. "Personal effects" is a term that refers to the belongings of a person.

For Numbers 34 through 36, choose the answer that best develops the topic sentence.

34. Many office professionals are interested in replacing the currently used keyboard, known as the QWERTY keyboard, with a keyboard that can make offices more efficient.

- a. Most middle-school students learn to type on a keyboard using the QWERTY system. This system has been in use for years.
- b. The rate at which a person can type is usually faster on a computer keyboard than it is on a typewriter. There are studies that indicate this.
- c. The best choice is the Dvorak keyboard. Studies have shown that people using the Dvorak keyboard can type 20 to 30 percent faster.
- d. The currently used keyboard would appear to be a slower system. Many people, however, are reluctant to replace it.

35. Ginkgo biloba extract is the most commonly prescribed plant remedy in the world.

- a. There are many plant remedies, including the ones that can be purchased in healthfood stores. Not all plant remedies have been approved.
- b. It is a highly refined compound produced from the leaves of the ginkgo tree. Many people take ginkgo to treat conditions such as headaches, asthma, and hearing loss.
- c. Gingko has also been widely prescribed in Europe. It has been approved by the German government for the treatment of memory loss.
- d. A 1977 study with gingko was conducted with twenty patients. These patients ranged in age from 62 to 85.

36. Life on earth is ancient and, even at its first appearance, unimaginably complex.

- a. Scientists place its beginnings at some 3000 million years ago. This is when the first molecule floated up out of the ooze with the unique ability to replicate itself.
- b. The most complex life form is, of course, the mammal. The most complex mammal is us.
- c. It is unknown exactly where life started. It is unknown exactly where the first molecule was "born."
- d. Darwin's Theory of Evolution was an attempt to explain what essentially remains a great mystery. His theory is, of course, has been discounted by some people.

For Numbers 37 and 38, read the paragraph. Choose the sentence that does NOT belong in the paragraph.

37. 1) A solitary, meat-eating creature who makes its home deep in the jungles of New Guinea, the cassowary hardly seems like a bird at all. 2) It is enormous, weighing up to 190 pounds. 3) Its plumage is more like hair than feathers; its song is a deep, menacing rumble; and it has lost the capability of flight. 4) Human beings have long been fascinated by birds, particularly by their ability to fly.

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence 4

38. 1) Story-telling should speak first to the heart and only second to the intellect. 2) It should, in Isaac Singer's words, "be both dear and profound," and it should also entertain. 3) Many fine writing programs have sprung up across the United States. 4) The new writer should avoid creating pieces that are impossible to understand except by a small, elite group of other writers.

- a. Sentence 1
- b. Sentence 2
- c. Sentence 3
- d. Sentence 4

For Numbers 39 and 40, choose the sentence that best fits in the blank.

39. A recent idea in law enforcement is community-oriented policing. _____ In every Japanese neighborhood there are Kobans, or guard shacks, where a local police officer sits. The Japanese city of Tokyo has thousands of Kobans. This system has made the Japanese feel safe walking around their cities.

- a. This concept is used effectively in Japan.
- b. Some cities in the United States are experimenting with new procedures.
- c. Tokyo is the largest city in Japan.
- d. Around the world, police officers share ideas.

40. The term "spices" is a pleasant one, whether it connotes fine French cuisine or a down-home, cinnamon-flavored apple pie.

_____. Individuals have traveled the world seeking exotic spices for profit and, in searching, have changed the course of history. Indeed, to gain control of lands harboring new spices, nations have actually gone to war.

- a. The taste and aroma are the main elements that make food a source of fascination and pleasure.
- b. The term might equally bring to mind Indian curry and those delicious barbecued ribs sold down on the corner.
- c. It is exciting to find a good cookbook and experiment with spices from other lands.
- d. The history of spices, however, is another matter altogether, often exciting, at times filled with danger and intrigue.

Answers**TEST 1: SEQUENCES**

- 1. a.** Look at each segment. You will notice that in each, the figure on the right and the figure on the left are the same; the figure in between is different. To continue this pattern in the last segment, the diamond on the left will be repeated on the right. Choice **a** is the only possible answer.
- 2. b.** Each arrow in this continuing series moves a few degrees in a clockwise direction. Think of these arrows as the big hand on a clock. The first arrow is at noon. The last arrow before the blank would be 12:40. Choice **b**, the correct answer, is at 12:45.
- 3. c.** Study the pattern carefully. In the first segment two letters face right and the next two face left. The first letter in the second segment repeats the last letter of the previous segment. The same is true for the third segment. But the forth segment changes again; it is the opposite of the first segment, so the last two letters must face right.
- 4. d.** This sequence concerns the number of sides on each figure. In the first segment, the three figures have one side, and then two sides, and then three sides. In the second segment, the number of sides increases and then decreases. In the third segment, the number of sides continues to decrease.
- 5. a.** In this series the figures increase the amount of shading by one-fourth and later decrease the amount of shading by the same amount. In the second segment, you will notice that the figure goes from completely shaded to completely unshaded. This is why choice **a** is the correct choice.
- 6. d.** This is an alternating series. The first and third segments are repeated. The second segment is simply a reverse of the other two.
- 7. d.** In each of the segments the figures alternate between one-fourth and one-half shaded.
- 8. c.** In this simple addition series, each number is 8 more than the previous number.
- 9. b.** In this subtraction series, subtract 5 from the first number and 6 from the second number in each segment.
- 10. c.** This is an alternation-with-repetition series, in which each number repeats itself and then increases by 6.
- 11. a.** This is a simple multiplication series. In each segment, the numbers are multiplied by themselves. The last segment is $0.1 \times 0.1 = 0.01$; $0.01 \times 0.01 = 0.0001$.
- 12. d.** This is an addition series, with a random number, 4, interpolated as every third number. In each segment, the second number is 1 more than the first number, and 4 is always the third number.
- 13. c.** This is an alternating division and subtraction series, in which the first number is divided by 3 and the third number is 3 less than the second number.
- 14. d.** Here is an addition and multiplication series. Two are added to the first number. The second number is then multiplied by 3.
- 15. a.** In this series, the third letter is repeated as the first letter of the next segment. The middle letter, A, remains static. The third letters are in alphabetical order, beginning with R.
- 16. d.** In this series, the letters remain the same: DEF. The subscript numbers follow this series: 1,1,1; 1,1,2; 1,2,2; 2,2,2; 2,2,3.
- 17. c.** There are two alphabetical series here. The first series is with the first letters only: VWXYZ. The second series involves the remaining letters: AB, CD, EF, GH, IJ.

18. a. The middle letters are static, so concentrate on the first and third letters. The series involves an alphabetical order with a reversal of the letters. The first letters are in alphabetical order: A, B, C, D, E, P. The second and forth segments are reversals of the first and third segments. The missing segment begins with a new letter.

19. a. This series consists of a simple alphabetical order with the first two letters of all segments: L, M, N, O, P, Q, R, S, T, U. The third letter of each segment is a repetition of the first letter.

20. d. There are three series to look for here. The first letters are alphabetical in reverse: Z, Y, X, W, V. The second letters are in alphabetical order, beginning with A. The number series is as follows: 5, 4, 6, 3, 7.

TEST 2: ANALOGIES

1. b. Guitar is to horn as hammer is to saw. This relationship is about grouping. The *guitar* and *horn* are musical instruments. The *hammer* and *saw* are carpentry tools.

2. d. Tree is to leaf as bird is to feather. This relationship shows part to whole. The *leaf* is a part of the *tree*, the *feather* is a part of the *bird*.

3. c. House is to tent as truck is to wagon. The *house* is a more sophisticated form of shelter than is the *tent*, the *truck* is a more sophisticated mode of transportation than is the *wagon*.

4. c. Scissors is to knife as pitcher is to watering can. This relationship is about function. The *scissors* and *knife* are both used for cutting. The *pitcher* and *watering can* are both used for watering.

5. b. A T-shirt is to a pair of shoes as a chest of drawers is to a couch. The relationship shows to which group something belongs. The *T-shirt* and *shoes* are both articles of clothing; the *chest* and *couch* are both pieces of furniture.

6. d. A bookshelf is to a book as a refrigerator is to a carton of milk. The *book* is placed on a *bookshelf*, the *milk* is placed in a *refrigerator*.

7. d. A squirrel is to an acorn as a bird is to a worm. A *squirrel* eats *acorns*; a *bird* eats *worms*.

8. b. An eye is to a pair of binoculars as a mouth is to a microphone. This relationship shows magnification. The *binoculars* help one to see farther. The *microphone* helps one to speak louder.

9. a. Knitting needles are to sweater as a computer is to a report. This relationship shows the tool needed to make a product. The *knitting needles* are used to create the *sweater*, the *computer* is used to write a *report*.

10. b. Bread is to knife as log is to ax. This relationship shows function. The *knife* cuts the *bread* the *ax* chops the *log*.

11. b. Closet is to shirt as kitchen cabinets are to cans of food. The *shirt* is stored in the *closet*; the *food* is stored in the *cabinets*.

12. a. Pyramid is to triangle as cube is to square. This relationship shows dimension. The *triangle* shows one dimension of the *pyramid*; the *square* is one dimension of the *cube*.

13. c. Toothbrush is to toothpaste as butter knife is to butter. This relationship shows function. The *toothbrush* is used to apply the *toothpaste* to teeth; the *knife* is used to apply *butter* to bread.

14. c. Fly is to ant as snake is to lizard. The *fly* and *ant* are both insects; the *snake* and *lizard* are both reptiles.

15. a. Sail is to sailboat as pedal is to bicycle. The *sail* makes the *sailboat* move; the *pedal* makes the *bicycle* move.

16. d. Hose is to firefighter as needle is to nurse. This relationship shows the tools of the trade. A *hose*

is a tool used by a *firefighter*, a *needle* is a tool used by a *nurse*.

17. c. A U.S. flag is to a fireworks display as a Halloween mask is to a pumpkin. This relationship shows symbols. The *flag* and *fireworks* are symbols for the Fourth of July. The *mask* and *pumpkin* are symbols of Halloween.

18. d. Newspaper is to book as trumpet is to banjo. The *newspaper* and *book* are to be read; the *trumpet* and *banjo* are musical instruments to be played.

19. b. Dishes are to kitchen sink as car is to hose. *Dishes* are cleaned in the *sink*; the *car* is cleaned with the *hose*.

20. a. The United States is to the world as a brick is to a brick house. This relationship shows part to whole. The *United States* is one part of the *world*; the *brick* is one part of the *house*.

TEST 3: MEMORY

Use the list of memory words on page 5 to check the answers to these questions.

1. d.

2. a.

3. a.

4. b.

5. c.

6. d.

7. b.

8. c.

9. c.

10. a.

12. d.

13. d.

14. a.

15. b.

16. c.

17. b.

18. a.

19. d.

20. d.

TEST 4: VERBAL REASONING

1. c. The necessary part of a lake is its water; without water there is no lake. The other choices are elements that may or may not be present.

2. a. Without sound, one cannot hear a radio, so sound is the necessary part. Not all radio stations play music. Batteries and antennae are not necessary for all radios.

3. d. Words are a necessary part of language. Not all languages are written. Words do not have to be spoken in order to be part of a language. Understanding is not essential to language.

4. b. A desert is a dry tract of land by definition. All deserts are not flat. All deserts do not have cacti or oases.

5. a. Lightning is produced from a discharge of electricity, so electricity is essential. Thunder and rain are not essential to the production of lightning. Brightness may be a byproduct.

6. b. The essential part of a monopoly is that it involves exclusive ownership or control.

7. c. The gravitational pull of the sun and moon are essential to the tide. Rivers, floods, and currents may be associated with tides, but they are not essential.

8. b. The three above the line are all insects. The hamster and squirrel are rodents, so the correct choice is b because the mouse is the only choice that represents a rodent.

9. a. In the relationship above the line, the ladder and hose are tools used by the firefighter. In the relationship below the line, the stethoscope and thermometer are tools used by the veterinarian.

- 10. c.** A table made of wood could come from an oak tree. A shirt made of cloth could come from a cotton plant.
- 11. d.** The words above the line show a continuum: command is more extreme than rule, and dictate is more extreme than command. Below the line the continuum is as follows: sleep is more than doze, and hibernate is more than sleep.
- 12. a.** A banquet and a feast are both large meals; a palace and a mansion are both large places of shelter.
- 13. a.** A fence and a wall mark a boundary. A path and an alley mark a passageway.
- 14. d.** The first sentence and last sentence make this statement true. There is no support for choice **a**. There is no indication that the train is cheaper (choice **b**). The round-trip tickets make choice **c** untrue.
- 15. b.** Since the seahorse populations have declined as a result of fishing, their populations will increase if seahorse fishing is banned. There is no support for any of the other choices.
- 16. a.** The fact that Vincent and Thomas live on the same street indicates that they live in the same neighborhood. There is no support for any of the other choices.
- 17. d.** If Georgia is older than Marsha and Bart is older than Georgia, then Marsha has to be the youngest of the three. There is no support for either choice **a** or choice **c**. Choice **b** is clearly wrong because Bart is the oldest.
- 18. c.** If there were seven shows left, and five were sitcoms, this means that only two of the shows could possibly be dramas. Choices **a** and **b** may be true, but there is no evidence to indicate this as fact. Just because all of the sitcoms remained does not mean that viewers prefer sitcoms.
- 19. d.** From *yoolagarn* and *yoolaglink*, you can determine that *yoola* means red. Knowing this, you can determine that *glink* means wagon and *nara* means wheel. Therefore, *narapluh* is the only choice that could mean wheelbarrow.
- 20. a.** *Jabber* means pronounce; *lota* means -ment; *enna* means mis-; *havre* means represent.

TEST 5: READING COMPREHENSION

- 1. b.** The passage describes the cuttlefish's use of a water jet to move. Choice **a** is incorrect because the passage only describes cuttlefish as *resembling* squid. Choice **c** is a true characteristic, but is not mentioned in the passage. Choice **d** is incorrect because the passage never describes cuttlefish as the *most* intelligent cephalopod.
- 2. a.** The passage states that the cuttlefish will change its color or pattern quickly to protect itself. The passage does not offer support for any of the other choices.
- 3. d.** Choice **d** covers the most important ideas in the two paragraphs. All the other choices choose more minor details from the paragraphs as the main subjects.
- 4. d.** Choice **d** includes both the informational content and light tone of the passage. Choices **a** and **b** describe too scientific and narrow an aim for the content and tone. Choice **c** does not include the informational content of the passage.
- 5. c.** Note that this question asks you to determine which choice is NOT included in the passage. Choice **c** is correct because this information is not given. The passage states that cuttlefish eyes and human eyes are similar in structure, but it says nothing about how well they see. Choices **a**, **b**, and **d** are incorrect because this information can be found in the passage.

6. **a.** This is implied in the first paragraph, which says that the *line snaked out the door to the corner*.
7. **d.** This is the only one of the choices that is implied by the passage, which describes ordering at the counter.
8. **d.** This is the only quotation from the passage that reveals the author's opinion of the quality of the food.
9. **a.** The fact that the overall tone of the passage is quite negative points to the author's purpose.
10. **c.** This title most nearly captures the main idea of the passage and the author's purpose in writing the piece. The other choices either are not mentioned or are secondary ideas in the passage.
11. **b.** This is the point of the second paragraph. It would be easy to get the wrong answer to this question by picking one you know to be true—for example, choice **a**—but this choice is not in the passage.
12. **a.** The first paragraph of the passage says that the food pyramid recommends six to eleven servings each day of grains and only two or three servings of meat.
13. **d.** See the second paragraph: the farthest *inside of the store is where you'll find chips and snacks*.
14. **c.** This is implied in the first sentence of the passage.
15. **b.** Because the passage states that Hershey *returned to the village where he had been born* to open his plant, and the passage also states that he was born near Derry Church, this statement must be accurate. The other choices cannot be supported. Although the writer mentions the popularity of chocolate internationally, you cannot assume that it is popular in every country (choice **a**), nor is there any indication that Milton Hershey was the first person to manufacture chocolate in the U.S. (choice **c**). Choice **d** is not discussed in the passage at all.
16. **a.** Choice **a** is the best choice because it is the most complete statement of the material. Choices **c** and **d** focus on small details of the passage; choice **b** is not discussed in the passage.
17. **b.** This is the best choice because the passage clearly shows Hershey's determination to be successful in the candy business. Although he had some failures, he could not be described as defective (choice **a**). There is nothing to indicate that he was either carefree (choice **c**) or cautious (choice **d**).
18. **c.** The third paragraph states that Hershey first used chocolate for coating his caramels. Choice **a** can be ruled out because he didn't make cocoa or baking chocolate until a year after he began producing chocolate. Choice **b** is not in the passage. Choice **d** is incorrect because he purchased the chocolate-making equipment at the Exposition.
19. **d.** This question tests your ability to use context clues to determine the intended meaning of a word. In paragraph three, the passage says *The Hershey Chocolate company was born in 1894 as a subsidiary of the Lancaster Caramel Company*. This indicates that a subsidiary company is one controlled by another company, choice **d**. While it may be true that Milton Hershey owned each company in its entirety (choice **a**), that is not clear from the material. There is also no indication that the chocolate company was created to support the caramel company (choice **b**). Finally, the passage contains no discussion of whether any of Hershey's companies were incorporated (choice **c**).
20. **d.** This is an inference taken from the third and fourth paragraphs. The third paragraph indicates that Hershey's caramel company was in Lancaster and the chocolate company was a subsidiary. The fourth paragraph states that Hershey moved his plant in 1905, eleven years after he first got into the chocolate business. From these two facts, it is

reasonable to conclude that the first chocolate business was in Lancaster.

21. c. This is the most accurate choice because the passage deals mainly with remembering the fair. Choice **a** can be ruled out because no backstage information is given. Choice **b** is too broad for this passage. Choice **d** is a poor choice because Woodstock turned out not to be a failure.

22. a. Choice **a** contains the phrase *should have been*, which is a clue that this is an opinion of the author. The other choices are sentences that provide factual information about Woodstock.

23. d. This reason is clearly stated in the first sentence of the second paragraph.

24. a. The sentence preceding and leading into sentence three speaks of the very brief time, a month, that the organizers of the fair had to find a new site and get information out. Choices **b** and **d** are incorrect because they could not have been known about at the time the fair was moved. Choice **c** is incorrect because there is no indication in the passage that New York officials tried to stop the fair's moving or information getting out.

25. c. This is stated early in the passage: Fire companies that responded had difficulty locating specific sites. Most came from other areas and were not familiar with Charlesburg. Choice **a** affected homeowners but the passage does not say it was the reason firefighters had difficulty. There is no evidence for choice **b**. Choice **d** is wrong because, although the passage says that water was *insufficient*, it does not say there was no water.

26. d. This is another detail item, and the correct answer is directly stated in the passage: *The task force recommended a review of hydrant inspection policy*.

27. a. Again, the correct choice is directly stated in the passage: *Evacuation procedures were inadequate. Residents reported being given conflicting and/or confusing information*.

28. d. Note that this question asks you to determine which choice is NOT in the passage. A careful check of the passage indicates that the home cities of the other fire departments was NOT included.

29. a. In paragraph 2, Sylvia is described as restless, she keeps looking out the window and playing with her bracelet. These are all dues that her mood is most likely anxious. Choice **b** is wrong because there are no details that would indicate anger. There is no support for choices **c** and **d**.

30. c. This is an inference question. The last paragraph indicates that Sylvia has a financial need: her job doesn't pay well and she has no savings. It is reasonable to conclude, therefore, that she needs help with the rent.

31. d. The details of the story show that Lola was supposed to arrive a half hour earlier, so it is reasonable to conclude that she is looking to see if Lola is entering the building. There are no details that would support the other choices.

32. a. This choice is confirmed by the last two sentences in the passage. There are no details to support any of the other choices.

33. b. The entire paragraph gives details that show Sylvia is wavering between leaving the apartment and waiting longer for Lola to arrive. There is no indication that she is excited about meeting Lola (choice **a**); in fact, the opposite maybe true. There are no clues to support **c** or **d**.

34. c. All through the passage, Sylvia is anxious and stressed, but the last two sentences give Sylvia hope that she will resolve her situation and find a job in music, where she has talent. Choice **a** can be ruled out because the passage is never *cheerful*; choices **b** and **d** are equally poor choices because

the tone of the passage is in no way *sentimental* or *magical*.

35. b. This is the main focus of the passage. The other choices can be ruled out. The author does not say why light pollution is occurring (choice **a**). Although it is reasonable to conclude that the author enjoys star gazing, this is not the purpose of the passage (choice **c**). There is no support in the passage for choice **d**.

36. d. This detail can be found in the final sentence of the passage.

37. b. This is the best choice because the passage is mainly about accounting, which is described as the *financial hub of the MIS*. Choice **a** indicates a "how to" essay for a general audience, so this choice can be ruled out. The passage is about the present, not the future, so choice **c** can be ruled out. Choice **d** has some validity, but it is not the main focus of the passage.

38. b. The passage contains objective information about accounting such as one might find in a textbook. There is nothing new or newsworthy in it (choice **a**). The passage does not contain the significant amount of personal opinion one would expect to find in an essay (choice **c**). It does not deal with government matters (choice **d**).

39. b. Note that this items asks for the LEAST likely choice. Choices **a**, **c**, and **d** are all listed in the passage as functions of accounting. On the other hand, the second sentence of the passage speaks of a *marketing department*, separate from the *accounting department*.

40. a. In the context of the paragraph, this is the only choice that makes sense. One would not divide up a bank or natural resources, which rules out **b** and **d**. The word *economic* is a clue that **c** is also incorrect.

TEST 6: MATHEMATICS CONCEPTS AND APPLICATIONS

1. c. The meaning of 4^3 is 4 *to the power of* 3, or 4 times itself 3 times.

2. c. The square root of 64 is 8.

3. c. Add the hours first, then the minutes: 1 hour + 3 hours = 4 hours. 20 minutes + 30 minutes = 50 minutes. Combine: 4 hours 50 minutes.

4. a. 157 is rounded to 200; 817 is rounded to 800. 200 – 800 equals 160,000.

5. c. Minus 3 to the third power is -3 multiplied by itself 3 times. $(-3) \times (-3) \times (-3) = -27$.

6. b. Divide the numerator by the denominator: $15 \div 2 = 7\frac{1}{2}$.

7. c. To find out how many dozen cookies Hans can make, divide $5\frac{1}{2}$ by $\frac{2}{3}$. First, convert $5\frac{1}{2}$ to $\frac{11}{2}$, then multiply by $\frac{3}{2}$, which is the same as dividing by $\frac{2}{3}$. $\frac{11}{2} \times \frac{3}{2} = \frac{33}{4}$, or $8\frac{1}{4}$ dozen.

8. d. When *multiplying* negative numbers, begin by simply multiplying the two numbers together. If both numbers have the same sign (whether plus or minus), the answer is positive; otherwise, the answer is negative. So: $4 \times -6 = -24$. Both numbers have the same sign (in this case negative), so the answer is positive: 24.

9. b. $\$4.20 = 75\%$ of full price. Divide $\$4.20$ by 0.75 to get the full price of $\$5.60$.

10. c. This problem is done by dividing: $1.5 \div 600 = 0.0025$ inches.

11. d. The farther to the right the digits go, the smaller the number.

12. a. 0.7 is the correct answer. Choice **b** is rounded up instead of down; choice **c** is rounded to the nearest hundredths place; and choice **d** is rounded to the nearest whole number.

13. d. Four digits to the right of the decimal point is the ten-thousandths place.

14. b. The problem asks what percent of 250 is 10? Since $x\% = x/100$, the equation is $x/100 = 10/250$. Crossmultiply: $250x = (10)(100)$. Simplify: $x = 1000/250$ or $x = 4$. Thus 4% of the senior class received full scholarships.

15. d. There are two sides 34 feet long and two sides 20 feet long. Using the formula $P = 2L + 2W$ will solve this problem. Therefore, you should multiply 34 times 2 and 20 times 2, and then add the results: $68 + 40 = 108$.

16. b. Because the integers must be even, the equation $n + (n + 2) + (n + 4) = 30$ is used. This gives $3n + 6 = 30$; $3n = 24$; $n = 8$. Therefore, 8 is the first number in the series. Option **a** (9, 10, 11) would work, but the numbers aren't even integers.

17. c. The solution is as follows: $[6(3) 6(-2)] \div 9$. The equation then becomes $[18 (-12)] \div 9$, and then, because two minuses become a plus, $30 \div 9 = 3 \frac{1}{3}$.

18. a. Let x = the number sought. Working in reverse order we have: the sum of that number and six becomes $(x + 6)$, the product of three and a number becomes $3x$. Combining terms: $(x + 6) - 3x = 0$. Simplifying: $2x = 6$ or $x = 3$.

19. d. An acute angle is less than 90 degrees.

20. b. Because parallel lines never intersect, choice **a** is incorrect. Perpendicular lines do intersect so choice **c** is incorrect. Choice **d** is incorrect because intersecting lines have only one point in common.

21. c. This is a multiplication problem. To quickly multiply a number by 1,000, move the decimal point three digits to the right—one digit for each zero. In this situation, because there are only two decimal places, add a zero.

22. d. This is a division problem. Divide 12.9 by 2 to get 6.45, then add both numbers. $12.90 + 6.45 = 19.35$.

23. c. 26% is equal to $26/100$. Changed to a decimal, the value is: $26 \div 100 = 0.26$. Or simply drop the percent sign and move the decimal over two places to the left.

24. b. Convert the percentage to a decimal: $232 \cdot 0.14 = 32.48$.

25. d. The production for Lubbock is equal to the total minus the other productions: $1780 - 450 - 425 - 345 = 560$.

26. a. The sum of the sides equals the perimeter: 3 sides 3 inches + 2 sides 5 inches = 19 inches.

27. a. First find the least common denominator of the two fractions, which is 6. Then add the fractions of the sandwich Joline got rid of: $3/6$ (which she gave to Eddie) + $2/6$ (which she ate) = $5/6$. Now subtract the fraction from one whole sandwich ($1 = 6/6$): $6/6 - 5/6 = 1/6$.

28. a. In choice **b**, the 9 is in the hundredths place. In choice **c**, it is in the tenths place. In choice **d**, it is in the ten-thousandths place.

29. c. Change the fraction to a decimal: 0.25 (which is $1/4$ as fast or 25% of Zelda's time). Now multiply: $35.25 \cdot 0.25 = 8.8125$, which can be rounded to 8.81.

30. d. Begin by converting $7/40$ into a decimal: $7/40 = 0.1750$. Next multiply by 1 in the form of $100/100$ to convert from decimal form to percent form: $(0.1750)(100/100) = 17.50/100$ or 17.50%.

31. b. Let x = the number sought. Twelve times onehalf of a number becomes $(12)(1/2)x$. Thus we have: $(12)(1/2)x = 36$ or $6x = 36$ and $x = 6$.

32. c. The area of a circle is expressed by the equation $A = \pi r^2$. So the area in which the search is taking place is $(45)(45)$. Use 3.14 for A: $A = 3.14(2,025)$; $A = 6,358.5$.

33. d. Let G stand for the generic oatmeal and N for the name brand: $G = 2/3 N$; $G = \$1.50$. $\$1.50 \div 2/3 = \2.25 .

- 34. b.** This problem requires both addition and subtraction. First, add the three lengths of string: $5.8 + 3.2 + 4.4 = 13.4$. Then subtract the answer from 100, making sure to align the decimal points: $100.0 - 13.4 = 86.6$.
- 35. d.** Find the answer by changing the fractions to decimals: $1/3 = 0.333$; $1/4 = 0.25$; $2/7 = 0.286$. 0.286 , or $2/7$, is between the other two.
- 36. d.** The slant height is found with the Pythagorean theorem to be 10. The perimeter is therefore $(2 \times 18) + (2 \times 10) = 56$.
- 37. a.** By using the Pythagorean theorem, the hypotenuse is found to be 5. The sum of the sides is the perimeter, giving a perimeter of 12.
- 38. c.** In your head, you can quickly multiply this figure by 2 to get 36. Then move the decimal point over one space to the left to get 3.60.
- 39. a.** If the inequality is solved as an equation, the largest value that fulfills the inequality is found. Therefore, $3x - 14 = 3$; $3x = 17$; $x = 5 \frac{2}{3}$. Any number smaller than this will fulfill the inequality. The only number less than $5 \frac{2}{3}$ is 4.
- 40. a.** A triangle with two congruent sides could either be isosceles or equilateral. However, because one angle is 40 degrees, it cannot be equilateral (the angles would be 60 degrees).

TEST 7: LANGUAGE EXPRESSION

- 1. d.** *Although* means "despite the fact that" or "even though." Even though strip mining is cheap, it is harmful. The other choices do not convey this meaning.
- 2. a.** *Therefore* is the best choice because it indicates that the bad cold resulted in Yuri's not going to the movie.
- 3. b.** *While* is the only logical choice. Choice **a** is illogical because it implies that Julia could control when the bus would arrive. Choices **c** and **d** are unclear.
- 4. c.** The sentence requires a reference to a particular time or situation. Choice **a** can be ruled out because rock music is not always played at a low volume. Choices **b** and **d** result in unclear sentences.
- 5. c.** The comparison is between two things, so choice **a** can be ruled out. Choices **b** and **d** are incorrect forms.
- 6. d.** The sentence requires an adverb, so **a** and **b** (adjectives) can be ruled out. Because there is no comparison, choice **c** is also incorrect.
- 7. c.** Since the action takes place in the past, the only correct choice is the past perfect, *had fallen*.
- 8. a.** The infinitive form of the verb to rescue is the only form that fits in this sentence.
- 9. b.** This is the only choice that is in agreement with the plural subject *people*.
- 10. d.** This is the only choice that is a complete sentence; the others are fragments.
- 11. a.** This sentence is clear and complete. Choice **b** is a run-on sentence. Choice **c** is confusing. Choice **d** has an unclear pronoun: *it* probably refers to *fish*, but can we tell for sure?
- 12. b.** This is a complete sentence. Choices **c** and **d** are fragments. In choice **a**, the verb does not agree in number with its subject, *one*.
- 13. b.** No connecting word is needed to relate the first half of the sentence to the second. Connecting words in the other choices turn them into sentence fragments.
- 14. a.** This is the only clear answer. In answers **b** and **c**, the pronouns *it* and *they* do not agree with the words they refer to. In **d**, the first phrase seems to refer to movies when it should refer to the lives of criminals.

- 15. a.** This is the only choice that uses proper parallelism; the verbs in both clauses are in a past tense. The other choices all have a shift in tense. In choice **b**, for example, the shift is from present to past tense.
- 16. c.** This is the only choice that uses proper parallelism; the verbs in both clauses are in a present tense. The other choices all mix tenses in an illogical way. In choice **a**, for example, the shift is from past to present tense.
- 17. d.** This is the only choice that uses verbs correctly. The first clause in the sentence uses a present-tense verb, *opens*, the second clause needs the future tense *will sell* because the word *tomorrow* indicates the future time. Choices **a** and **c** are incorrect because they shift from the present to the past in an illogical way. Choice **b** shifts from past to present.
- 18. b.** This is the only choice that uses verbs in a way that results in a logical statement. The other choices mix tenses. In choice **d**, there is a shift from past to present; in choices **a** and **c**, the shift is from present to past.
- 19. d.** This is the only choice that gives a logical statement. In choice **a**, *would* should be replaced with *should*. In choice **b**, the second clause should be in the future tense. In choice **c**, both verbs should be in the past tense.
- 20. a.** *Kate* is the simple subject of the sentence; *she* is the subject of the dependent clause.
- 21. b.** The simple subject is *storm*; *summer* is part of an introductory phrase; *island* is an object of a preposition; *power* is an object of the verb.
- 22. b.** *Jonathan* is the subject of the sentence; *driving* is part of the introductory phrase; *car* and *nap* are objects of verbs.
- 23. c.** The only verb in the sentence is the word *is*.
- 24. c.** There are three verbs in this sentence: *is*, *fails*, and the infinitive *to amaze*. *Fails* is the predicate because it represents the action in the sentence. Because the word *is* is part of a dependent clause, it cannot be the predicate of the sentence. Neither can an infinitive be the predicate.
- 25. d.** *Seemed* is the only verb in the sentence that is not part of the introductory, dependent clause. *The students seemed apathetic* is the sentence's main clause.
- 26. b.** The transitional word *although* correctly establishes a contrast.
- 27. c.** This answer best establishes the causal relationship between the two sentences.
- 28. a.** The transitional word *furthermore* correctly indicates the addition of one unpleasant trait to another. Choice **d** is wrong because not all crooks necessarily have unpleasant personalities.
- 29. b.** This is the only choice that has the same meaning as the original two statements. Choices **a** and **c** alter the meaning. Choice **d** is awkwardly constructed and makes no sense.
- 30. d.** This is the best choice because it combines the two sentences in the most logical way. Choice **a** is awkwardly constructed and reads as though the earth were extinct. Choice **b** makes no logical sense. In choice **c**, the cause-effect relationship is illogical.
- 31. a.** This is the best choice because it is the only one that refers to *recycling containers*, which is the main focus of this paragraph. The other choices are statements about recycling in general.
- 32. b.** This is the only choice that mentions telecommuting, which is the main focus of this paragraph. The other choices are too general.
- 33. c.** This choice refers to "unreasonable searches," which is the main focus of this paragraph. Choice **a** can be ruled out because this idea is not developed by the other two sentences. Choices **b** and **d** are also far from the topic of unreasonable searches.

34. c. This choice develops the topic sentence by following up on information about replacing the QWERTY keyboard with another system. Choices **a** and **b** veer away from the topic. Choice **d** seems to contradict the topic sentence.

35. b. This is the only choice that develops the topic sentence. Choice **a** does not even refer to gingko. Choice **c** is redundant because Europe is part of the world. Choice **d**, by referring to an old study, veers completely away from the topic.

36. a. This is the best choice because it directly follows the information that the earth is *ancient* and *complex*. Choice **b** changes the topic to mammals. Choice **c** also strays from the topic sentence. Choice **d** changes the topic to Darwin.

37. d. The passage is about the cassowary bird, not about human beings. Sentence 4 is irrelevant to the topic.

38. c. The passage is about the nature of story-telling and has nothing to do with writing programs.

39. a. This is the only choice that provides a transition between the first sentence and the third sentence. Choice **b** is too vague; choice **c** shifts the focus from community policing to the size of Tokyo; choice **d** is a completely different topic.

40. d. *Changing the course of history* (in the third sentence) and nations going *to war* (in the fourth sentence) implies that the subject of the paragraph is history; these phrases also connote danger and intrigue.

Scoring

Find out how you did on this practice exam by counting the number of questions you got right in each part. Remember, questions you skipped or got wrong don't count against your score—only the number of correct answers is important. Then divide the number you got right by the number of questions in the section (see the first page of this chapter). If you need to check your math, use the tables at the end of Chapter 5.

If you're disappointed with your score, be sure to go over the EasySmart Test Preparation System in Chapter 3 to learn how to avoid the main difficulties. Note which parts of the exam gave you the most trouble and, for the time you have left, concentrate your study on those parts.

The key to success in almost any pursuit is preparation. If you have worked through this book and faithfully done the practice exams, you're better prepared than many of the other students who will be taking the exam with you. You've looked carefully to see where your strengths and weaknesses lie and learned how to deal with the various kinds of questions that will appear on the test. So you can relax and go into the exam with the confidence that comes from knowing you're ready and armed with the tools to do your best.