

SECTION 2
 QUANTITATIVE REASONING

Time: 35 minutes

35 Questions

Directions

Any figures that accompany questions in this section may be assumed to be drawn as accurately as possible EXCEPT when it is stated that a particular figure is not drawn to scale. Letters such as x , y , and n stand for real numbers. There are two types of questions:

(1) For Questions 1-20, work each in your head or on the space available on the test pages. Then look at the four choices and fill in the corresponding oval on the answer sheet.

<u>Example 1</u>	If $3 + x = 5$, what is the value of x ? (A) 0 (B) 1 (C) 2 (D) 3	Answer (A) (B) ● (D)
<u>Example 2</u>	$1 + \frac{1}{3} =$ (A) $\frac{2}{3}$ (B) $\frac{4}{3}$ (C) $\frac{5}{3}$ (D) $\frac{7}{3}$	Answer (A) ● (C) (D)

(2) For Questions 21-35, note the given information, if any, and then compare the quantity in Column A to the quantity in Column B. On the answer sheet, fill in

- (A) if the quantity in Column A is greater
- (B) if the quantity in Column B is greater
- (C) if the two quantities are equal
- (D) if the relationship cannot be determined from the information given

	<u>Column A</u>	<u>Column B</u>	
<u>Example 3</u>	3^2	2^3	Answer ● (B) (C) (D)
	The quantity in Column A (9) is greater than the quantity in Column B (8), so space A is marked.		
<u>Example 4</u>	The cost of 8 apples at 7 cents apiece	The cost of 7 apples at 8 cents apiece	Answer (A) (B) ● (D)
	The quantity in Column A (56 cents) equals the quantity in Column B (56 cents), so space C is marked.		
<u>Example 5</u>	1	$1 + x$	Answer (A) (B) (C) ●
	Since x can be any real number (including 0 or negatives), there is not enough information given to determine the relative sizes of the quantities in Columns A and B. Therefore, space D is marked.		

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1. Which of the following is greatest?

- (A) 0.0100
- (B) 0.0099
- (C) 0.1900
- (D) 0.0199

2. Which of the following is NOT the product of two prime numbers?

- (A) 33
- (B) 35
- (C) 45
- (D) 91

3. If x , y , and z are consecutive even integers, then what is the difference between x and z ?

- (A) 0
- (B) 1
- (C) 2
- (D) 4

Questions 4-5 refer to the following chart.

Clothing Close-out

Dresses	Originally \$120	Now \$90
Coats	Originally \$250	Now \$180
Shoes	Originally \$60	Now \$40
Hats	Originally \$40	Now \$20

4. Which of the items for sale has the greatest percent discount?

- (A) Dresses
- (B) Coats
- (C) Shoes
- (D) Hats

5. Purchasing which item will save the buyer the most dollars?

- (A) Dresses
- (B) Coats
- (C) Shoes
- (D) Hats

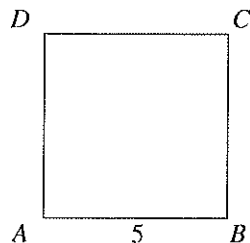
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6. Amy is three years older than Beth and five years younger than Jo. If Beth is b years old, how old is Jo, in terms of b ?

(A) $2b + 3$
 (B) $2b - 3$
 (C) $b + 4$
 (D) $b + 8$

7. If x is divided by 5, the remainder is 4. If y is divided by 5, the remainder is 1. What is the remainder when $(x + y)$ is divided by 5?

(A) 0
 (B) 1
 (C) 2
 (D) 3



8. What is the perimeter of the square $ABCD$ shown above?

(A) 5
 (B) 15
 (C) 20
 (D) 25

9. At a party, 4 pizzas with 8 slices each were served. If each of the 9 guests had 3 pieces of pizza each, how many slices remained?

(A) 4
 (B) 5
 (C) 6
 (D) 7

10. Jamie had x dollars in the bank. He withdrew $\frac{1}{2}$ to buy a car. He withdrew $\frac{1}{3}$ of what was left to buy a couch. What fraction of the original amount remained in his account?

(A) $\frac{1}{6}$
 (B) $\frac{1}{5}$
 (C) $\frac{1}{4}$
 (D) $\frac{1}{3}$

11. J is a whole number divisible by 4. J is also divisible by 3. Which of the following is NOT a possible value for J ?

(A) 12
 (B) 24
 (C) 30
 (D) 36

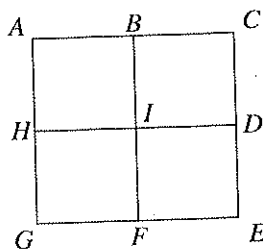
12. The product of 0.48 and 100 is approximately

(A) 0.5
 (B) 4.8
 (C) 5
 (D) 50

13. Which of the following is less than $\frac{6}{7}$?

(A) $\frac{2}{3}$
 (B) $\frac{8}{9}$
 (C) $\frac{7}{6}$
 (D) $\frac{17}{19}$

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14. Square $ACEG$ shown above is composed of 4 squares with sides of 1 meter each. Traveling only on the lines of the squares, how many different routes from A to D that are exactly 3 meters long are possible?
- (A) 2
(B) 3
(C) 4
(D) 5
15. If, in triangle ABC , the measure of angle B is greater than 90° , and $AB = BC$, what is a possible measure for angle C in degrees?
- (A) 35
(B) 45
(C) 60
(D) It cannot be determined from the information given.
16. Chumway Motors discounts the cost of a car by 10% and then runs another special one-day deal offering an additional 20% off the discounted price. What discount does this represent from the original price of the car?
- (A) 28%
(B) 30%
(C) 40%
(D) 72%
17. David scored 82, 84, and 95 on his first three math tests. What score does he need on his fourth test to bring his average up to a 90?
- (A) 90
(B) 92
(C) 96
(D) 99
18. $\frac{1}{3}$ is most nearly equivalent to
- (A) 0.13
(B) 0.3
(C) 0.4
(D) 0.5
19. 25% of 10% of 200 is
- (A) 250
(B) 100
(C) 50
(D) 5
20. The ratio of yellow paint to red paint to white paint needed to make a perfect mixture of orange paint is 3 to 2 to 1. If 36 gallons of orange paint are needed to paint a cottage, how many gallons of red paint will be needed?
- (A) 2
(B) 6
(C) 12
(D) 15

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	<u>Column A</u>	<u>Column B</u>	<u>Column A</u>	<u>Column B</u>
21.	25% of 50	50% of 25	$(x + 2)(x - 2) = 0$	
In a group of 150 books, 60 percent are fiction.			26.	x 2
22.	Half the number of fiction books	The difference between the number of fiction books and the number of nonfiction books	27.	$\sqrt{36} + \sqrt{16}$ $\sqrt{52}$
Dawn has a drawer filled with socks. The ratio of brown socks to blue socks is 2:3.			28.	3^{12} 9^6
23.	$\frac{2}{3}$	The fractional part of the socks in Dawn's drawer that are brown	29.	The volume of a solid cube is 27. The height of the cube 3
24.	x^2	x^3	$\frac{x + 2}{y + 2} = \frac{x}{y}$	
25.	The average of the three smallest positive even integers	The average of the three smallest positive integers	30.	x $y + 2$

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	<u>Column A</u>	<u>Column B</u>
31.	The sum of the integers from 1 to 100, inclusive	The sum of the even integers from 1 to 200, inclusive
32.	x	$\frac{x}{4} = 1.5$ 5
33.	x	$x > 0$ x^2
34.	A hiker completed a hike, walking at an average rate of 4 miles per hour. Had she averaged 5 miles per hour, the trip would have been completed two hours earlier than it was. The number of hours in which the hike was completed	10

	<u>Column A</u>	<u>Column B</u>
35.	x is a positive integer. y is the result of $100x$. The sum of the digits in x	The sum of the digits in y

STOP
 IF YOU FINISH BEFORE TIME IS CALLED,
 YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.
 DO NOT TURN TO ANY OTHER SECTION IN THE TEST.