Time-25 Minutes 20 Questions

Notes

Directions: For this section, solve each problem and decide which is the best of the choices given. Fill in the corresponding oval on the answer sheet. You may use any available space for scratchwork.

- 1. Calculator use is permitted.
- 2. All numbers used are real numbers.
- Figures are provided for some problems. All figures are drawn to scale and lie in a plane UNLESS otherwise indicated.
- 4. Unless otherwise specified, the domain of any function f is assumed to be the set of all real numbers x for which f(x) is a real number.







- **3** $(2 \times 10^4) + (5 \times 10^3) + (6 \times 10^2) + (4 \times 10^1) =$
 - (A) 2,564
 - (B) 20,564
 - (C) 25,064
 - (D) 25,604
 - (E) 25,640

If $2^{x+1} = 16$, what is the value of x?

- (A) 2
- (C) 4
- (D) 5
- (E) 6



4 On the number line shown above, the length of YZ is how much greater than the length of XY ?

- (A) 3 (B) 4
- (C) 5
- (D) 6
- (E) 7



Note: Figure not drawn to scale.

- **6** In the figure above, what is the value of *a*?
 - (A) 50
 - (B) 55
 - (C) 60 (D) 65
 - (Ē) 70



Section 3	333
 If x - 1 is a multiple of 3, which of the following must be the next greater multiple of 3? (A) x (B) x + 2 (C) x + 3 (D) 3x (E) 3x - 3 	9 If 40 percent of r is equal to s, then which of the following is equal to 10 percent of r? (A) 4s (B) 2s (C) $\frac{s}{2}$ (D) $\frac{s}{4}$ (E) $\frac{s}{8}$
 The average of 20, 70, and x is 40. If the average of 20, 70, x, and y is 50, then what is the value of y? (A) 100 (B) 80 (C) 70 (D) 60 (E) 30 	 If a prifact number is a nonprime integer such that each factor of the integer other than 1 and the integer itself is a prime number, which of the following is a prifact number? (A) 12 (B) 18 (C) 21 (D) 24 (E) 28



The figure above shows the graph of w(x). Which of the following shows the graph of w(x - 3)?











If 3x + y = 14, and x and y are positive integers, each of the following could be the value of x + y EXCEPT

3

- (A) 12
- (B) 10 (C) 8
- (D) 6
- (E) 4







The ratio of x to y to z is 3 to 6 to 8. If y = 24, what is the value of x + z?

(A) 11 (B) 33 (C) 44

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(D) 66

(E) 88

19 If r < 0 and $(4r - 4)^2 = 36$, what is the value of *r*?



(E)

18 If x + y = 11, y + z = 14, and x + z = 13, what is the value of x + y + z?

- (A) 16
- (B) 17(C) 18
- (D) 19
- (E) 20

20 If a cube has a surface area of $36n^2$ square feet, what is its volume in cubic feet, in terms of n?



(D) $36n^3\sqrt{6}$

(E) 216n³

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.

