

1. Translate the following phrase to an algebraic expression: "The product of 10 and  $x$  is increased by 7."
- (A)  $\frac{10}{x} + 7$     (B)  $10x - 7$     (C)  $\frac{10}{x} - 7$   
(D)  $\frac{10}{x} \cdot 7$     (E)  $10x + 7$
2. Simplify:  $-\frac{1}{2} + -\frac{1}{5}$
- (A)  $-\frac{7}{10}$     (B)  $-\frac{3}{10}$     (C)  $\frac{7}{10}$   
(D)  $\frac{3}{10}$     (E)  $\frac{2}{7}$
3. Simplify:  $-3(x + 6) + 8(4 - x)$
- (A)  $-11x + 32$     (B)  $-11x - 32$   
(C)  $-11x + 6$     (D)  $-11x + 14$   
(E)  $-5x + 14$
4. The length of a rectangle is 12 feet more than its width. If the perimeter is 44 feet, find the **width**. ( $P = 2P + 2w$ )
- (A) 5 feet    (B) 9 feet    (C) 11 feet  
(D) 14 feet    (E) 16 feet
5. Simplify:  $\frac{2(-9) + 3(6)}{-7 - 8}$
- (A) 36    (B) 0    (C) -36  
(D)  $\frac{12}{5}$     (E)  $-\frac{12}{5}$
6. Solve the equation:  $\frac{1}{3}y + 4 = 11$
- (A)  $y = 45$     (B)  $y = 15$     (C)  $y = 21$   
(D)  $y = 54$     (E)  $y = 5$
7. There is \$2.20 in dimes and quarters. There are 8 more dimes than quarters. How many of each type of coin are there?
- (A)  $q = 12$     (B)  $q = 2$     (C)  $q = 12$   
     $d = 20$        $d = 20$        $d = 4$   
(D)  $q = 2$     (E)  $q = 4$   
     $d = 10$        $d = 12$
8. Two times the difference of a number and 12 is 22. Find the number.
- (A) 32    (B) -1    (C) 56  
(D) 23    (E) 25
9. Solve the equation:  $6(b - 2) = 2(b + 8)$
- (A)  $b = -7$     (B)  $b = 7$     (C)  $b = 1$   
(D)  $b = -1$     (E)  $b = 2$
10. Evaluate the expression when  $x = -3$ :  
 $5x - 5 - 3x - 10$
- (A) -21    (B) -39    (C) 9.5  
(D) 21    (E) 7

11. 240 is 12% of what number?  
 (A) 288 (B) 2,000 (C) 2880  
 (D) 20 (E) 20,000
12. Simplify:  $-\frac{3}{4} \div \frac{15}{16}$   
 (A)  $\frac{5}{4}$  (B)  $-\frac{45}{64}$  (C)  $\frac{4}{5}$   
 (D)  $-\frac{5}{4}$  (E)  $-\frac{4}{5}$
13. Give the difference of  $\frac{9}{10}$  and  $\frac{1}{100}$   
 (A)  $\frac{1}{100}$  (B)  $\frac{1}{10}$  (C)  $\frac{8}{10}$   
 (D)  $\frac{91}{100}$  (E)  $\frac{89}{100}$
14. Solve:  $7x + 5 - 2x - 3 = 6 + 4x - 1$   
 (A)  $x = 0$  (B)  $x = 3$  (C)  $x = -3$   
 (D)  $x = \frac{1}{3}$  (E)  $x = -\frac{1}{3}$
15. Which property is illustrated by the statement  
 $5(3x) = (5 \cdot 3)x$ ?  
 (A) Commutative Property of Addition  
 (B) Commutative Property of Multiplication  
 (C) Associative Property of Addition  
 (D) Associative Property of Multiplication  
 (E) Distributive Property
16. Two angles are complementary.  
 If one is  $25^\circ$ , find the other.  
 (A)  $65^\circ$  (B)  $75^\circ$  (C)  $85^\circ$   
 (D)  $155^\circ$  (E)  $165^\circ$
17. What is 30% of 50?  
 (A) 150 (B) 15 (C) 1500  
 (D) 1.5 (E) 16.6
18. Solve for  $x$ :  $-\frac{1}{4}x = 2$   
 (A)  $x = 8$  (B)  $x = -8$   
 (C)  $x = \frac{1}{2}$  (D)  $x = -\frac{1}{2}$   
 (E)  $x = -12$
19. Solve:  $-2x + 13 \leq 27$   
 (A)  $x \leq 7$  (B)  $x \leq -20$  (C)  $x \leq -7$   
 (D)  $x \geq 7$  (E)  $x \geq -7$
20. Solve:  $-0.3(2x - 5) = 0.7(3 - x)$   
 (A)  $x = -\frac{21}{13}$  (B)  $x = 60$  (C)  $x = -6$   
 (D)  $x = 6$  (E)  $x = -60$
- Answer Key:  
 1. E 6. C 11. B 16. A  
 2. A 7. E 12. E 17. B  
 3. D 8. D 13. E 18. B  
 4. A 9. B 14. B 19. E  
 5. B 10. A 15. D 20. D