

TEST NAME: **Writing Algebraic Equations**  
TEST ID: **1358005**  
GRADE: **07 - Seventh Grade**  
SUBJECT: **Mathematics**  
TEST CATEGORY: **School Assessment**

Student: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

1. A rectangular playground has a length of 40 feet and a perimeter of 120 feet. What is the width of the playground?
  - A. 20 feet
  - B. 30 feet
  - C. 40 feet
  - D. 80 feet
  
2. **An office building is 20 feet taller than twice the height of a bank building. If the office building is 320 feet tall, how tall is the bank building?**
  - A. 150 feet
  - B. 160 feet
  - C. 180 feet
  - D. 300 feet
  
3. **Terry had his car repaired at Ace Auto. He was charged \$50 per hour for labor plus \$150 for parts. His total bill for the repair before tax was \$375. How many hours of labor was Terry charged for?**
  - A. 2.5
  - B. 4.5
  - C. 7.5
  - D. 10.5
  
4. **A car rental company charges \$56 per day plus \$0.30 per mile driven. John paid \$86 after renting a car for one day. What equation should he use to find  $x$ , the number of miles he drove?**
  - A.  $x + 56 = 86$
  - B.  $30x + 56 = 86$
  - C.  $0.30x + 56 = 86$
  - D.  $0.30x + 86 = 56$
  
5. **Tommy purchased a riding lawnmower with an original value of \$2,500. If the value of the riding lawnmower decreases by \$300 per year, what should be the value of the lawnmower after five years?**
  - A. \$1,000
  - B. \$1,300
  - C. \$1,500
  - D. \$2,200

6. Shawn has \$3 more than twice as much money as Peter. If Shawn has \$10, how much money does Peter have?
- A. \$3.50
  - B. \$6.75
  - C. \$17.00
  - D. \$23.00
7. The sum of four consecutive integers is 34. What is the smallest of the four integers?
- A. 6
  - B. 7
  - C. 8
  - D. 9
8. Daniel is paid \$10 per week for selling newspaper subscriptions. He is also paid \$3.50 for each new customer ( $x$ ) that signs up for the subscription. Which equation represents the amount ( $y$ ) Daniel earns per week?
- A.  $y = 3.5x$
  - B.  $y = 10 + x$
  - C.  $y = 10 + 35x$
  - D.  $y = 10 + 3.5x$
9. A taxi charges \$3, plus \$1.50 for each mile traveled. Mr. Lewis rode in the taxi from his home to the airport and was charged \$30. How many miles does Mr. Lewis live from the airport?
- A. 18
  - B. 20
  - C. 22
10. The perimeter of a rectangular garden is 150 feet. The length is 50 feet longer than the width,  $w$ . Which equation could be used to calculate the width of the garden?
- A.  $2(w + 50) + w = 150$
  - B.  $2w + 50 + 2w = 150$
  - C.  $2w + 2(w + 50) = 150$
  - D.  $2w + 2(w - 50) = 150$

11. Raj paid a total of \$155 to purchase 5 books from a book club. Each book cost the same amount. The total cost included a shipping and handling fee of \$15. What was the price of each book?
- A. \$27
  - B. \$28
  - C. \$31
  - D. \$34
12. Erin opened a savings account with \$50. She deposited \$35.50 into the account every month until she had a total of \$653.50. Which equation could be used to find  $m$ , the number of months she made deposits into the account?
- A.  $653.5 = 50 + 35.5m$
  - B.  $653.5 + 50 = 35.5m$
  - C.  $653.5 = 50 - 35.5m$
  - D.  $653.5 \div 50 = 35.5m$
13. A school band went on a trip to a music festival. The band director was admitted for free, but it cost \$100 to rent a bus for the trip and \$4 for each student to get into the festival. The total cost of the trip was \$244. Which equation can be used to find  $s$ , the number of students that went on the trip?
- A.  $244 + 100 = 4s$
  - B.  $4(100) + s = 244$
  - C.  $100 + 4s = 244$
  - D.  $(100 + 4)s = 244$
14. Carol bought 2 pairs of jeans at \$24 each and 3 shirts. She spent a total of \$75 before tax. What is the cost of 1 shirt?
- A. \$8
  - B. \$9
  - C. \$17
15. Jacob is 12 years younger than twice Elizabeth's age. Jacob is 28 years old. How old is Elizabeth?
- A. 8
  - B. 14
  - C. 16
  - D. 20

16. The skating rink charges \$0.75 to rent skates and \$1.25 per hour to skate. Which equation can be used to find the number of hours ( $h$ ) someone skated if he or she was charged \$4.50?
- A.  $0.75 + 1.25 = 4.50$
  - B.  $h(0.75 + 1.25) = 4.50$
  - C.  $0.75 + 1.25h = 4.50$
  - D.  $0.75h + 1.25 = 4.50$
17. Barry is 7 years older than Meisha. Which equation shows Barry's age ( $b$ ) in terms of Meisha's age ( $m$ )?
- A.  $b = m + 7$
  - B.  $m = b + 7$
  - C.  $b = 7m$
  - D.  $m = 7b$
18. Hilda rented a canoe. The rental rate is \$20 flat fee and \$12.50 per hour. She was charged a total of \$45. Which equation could be used to find  $h$ , the number of hours she rented the canoe?
- A.  $20 - 12.5h = 45$
  - B.  $20 + 12.5h = 45$
  - C.  $(20 - 12.5)h = 45$
  - D.  $(20 + 12.5)h = 45$
19. Which equation would describe "two times a given number plus five equals 15"?
- A.  $x + 5 = 15$
  - B.  $2x + 5 = 15$
  - C.  $x + 2(5) = 15$
  - D.  $2(x + 5) = 15$
20. When the perimeter of a rectangle is 36 units and the width is 4 units less than the length, the equation  $4l - 8 = 36$  can be used to find  $l$ , the length of the rectangle in units. What is the value of  $l$ ?
- A. 7
  - B. 9
  - C. 11
  - D. 17
21. Jeremy ordered 3 large pizzas and had them delivered to his home. The total cost of the pizzas, including a \$6 delivery charge, was \$42. Each of the pizzas was the same price. What is the cost of one pizza?
- A. \$8
  - B. \$12
  - C. \$14
  - D. \$16

22. Clark makes \$9 per hour at his job. Each week he spends \$16 from his earnings to buy a bus pass. He was left with \$182 last week after buying his bus pass. To the nearest hour, how many hours did Clark work?
- A. 12
  - B. 18
  - C. 20
  - D. 22
23. Jacob went on a fishing trip. This year he caught 30 fish, which is six more than twice the number he caught last year. How many fish did Jacob catch last year?
- A. 9
  - B. 12
  - C. 18
24. Gavin starts with  $x$  marbles. If Gavin gives 3 of his marbles to Cindy, then Cindy will have twice as many marbles as Gavin has after the exchange. If  $y$  is the number of marbles that Cindy has after the exchange, which of the following equations is true?
- A.  $y = 2(x - 3)$
  - B.  $y = 2(x - 1)$
  - C.  $y = 2(x + 1)$
  - D.  $y = 2(x + 3)$
25. If a number is first doubled then decreased by six and the result is eight, what is the number?
- A. 7
  - B. 10
  - C. 14
  - D. 20

26. A customer paid \$83.97 to rent a truck for 1 day. The rental company charged \$34.99 per day and \$0.79 per mile driven. Which equation could be used to find  $m$ , the number of miles the customer drove the truck?

A.  $83.97 = 0.79m + 34.99$

B.  $83.97 = 0.79m - 34.99$

C.  $83.97 = 34.99m + 0.79$

D.  $83.97 = 34.99m - 0.79$

27. This table represents the equation  $y = 2x + 1$ .

$y = 2x + 1$

$x$	$y$
1	3
3	7
7	15
?	21

For what value of  $x$  is  $y = 21$ ?

- A. 0
- B. 10
- C. 11
- D. 15

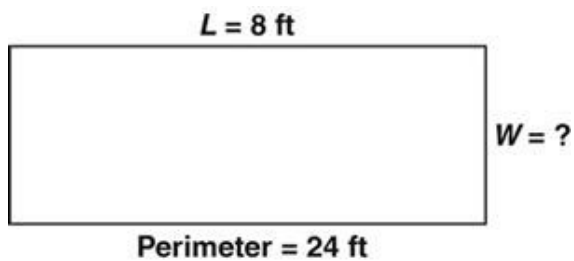
28. The cost for a taxi ride is \$3.00, plus \$0.60 for each mile traveled. Ms. Jackson was charged \$15.60 for a taxi ride. How many miles was Ms. Jackson's taxi ride?

- A. 5
- B. 21
- C. 26
- D. 31

29. Hassan and Eva rode their bikes from the same starting point. Hassan rode his bike  $\frac{5}{6}$  of a mile, while Eva rode hers  $\frac{4}{7}$  of a mile. Which equation shows the mileage difference,  $d$ , in the distances they rode?

- A.  $\frac{5}{6} + d = \frac{4}{7}$   
B.  $\frac{5}{6} - d = \frac{4}{7}$   
C.  $d - \frac{5}{6} = \frac{4}{7}$   
D.  $d \div \frac{4}{7} = \frac{5}{6}$

30. The formula for the perimeter of a rectangle is  $P = 2L + 2W$ . The perimeter of the rectangle below is 24 ft.



What is the width of the rectangle?

- A. 3 ft  
B. 4 ft  
C. 6 ft  
D. 8 ft