

MULTIPLE CHOICE

- Which is a shorthand way to write $5 \times 5 \times 5 \times 5$?
 A. $5 \times 5 + 5 \times 5$ C. 5^4
 B. 5^3 D. 4^5
- Which word describes a number that tells you how many times to multiply a number by itself?
 F. Variable H. Expression
 G. Exponent J. Constant
- Andre made the table below to show the results of his experiments on the reproduction of flies.

Day	Number of Flies	Total
1	3	3
2	3×3	9
3	$3 \times 3 \times 3$	27
4	$3 \times 3 \times 3 \times 3$	81

How could Andre write his results for day 4 using exponents?

- A. 4^2 C. 3^2
 B. 3^3 D. 3^4
- Erik made a model train that was 25 feet shorter in length than an actual train. Let m represent the length of Erik's model. Which expression represents the length of the actual train?
 F. $25 - m$ H. $m + 25$
 G. $25m$ J. $m - 25$
- Which of the following expressions is equivalent to $7x + 12$?
 A. $12 + 7x$ C. $19x$
 B. $7 + 12x$ D. $7(x + 12)$

- Mark has been asked to find the value of $4(9 + 24) + 7$. What should he do first?
 F. Add 4 and 7.
 G. Multiply 4 and 9.
 H. Multiply 4 and 24.
 J. Add 9 and 24.
- The new county park has an area that is 3.5 times the area of the old park. Let p represent the area of the old park. Which expression represents the area of the new park?
 A. $3.5p$ C. $p + 3.5$
 B. $p - 3.5$ D. $\frac{p}{3.5}$
- Which of the following is an example of the Commutative Property of Multiplication?
 F. $(15 \times 5) \times 5 = 15 \times (5 \times 5)$
 G. $15 \times 5 = 5 \times 15$
 H. $5 + 15 = 15 + 5$
 J. $5(15 + 5) = 5(5 + 15)$
- Evaluate the expression $24x - 13y$ for $x = 3$ and $y = 2$.
 A. 11 C. 37
 B. 33 D. 46
- Which expression does not equal 15?
 F. $3k$ for $k = 5$
 G. $3 + k$ for $k = 12$
 H. $\frac{k}{3}$ for $k = 60$
 J. $k - 10$ for $k = 25$
- Combine like terms in $5m^2 + 16k^2 + 13m^2$.
 A. $34m^2$ C. $18m^2 + 16k^2$
 B. $34k^2$ D. $18m^4 + 16k^2$

12. The new building in City Center is 345 feet taller than the Jefferson Building. Let h represent the height of the Jefferson Building. Which expression represents the height of the new building?

F. $h + 345$ H. $h - 345$

G. $345 - h$ J. $345h$

13. $5(20 + x) = 5(20) + 5x$ is an example of which property?

- A. Associative Property of Addition
- B. Associative Property of Multiplication
- C. Commutative Property of Addition
- D. Distributive Property

14. Which expression contains like terms?

F. $x + y + xy$ H. $7y^2 - 7y - 7$

G. $17x^2 + x^3 + x$ J. $x^4 + 15 + 4x^4$

15. Which expression is equivalent to $9n + 3$ after combining like terms?

A. $10n^2 - n^2 - 3$

B. $3n + 7 - 4 + 3n$

C. $18 - 15 + 4n + 5n$

D. $7n^2 + 2n + 6 - 3$

16. Which expression has a value of 74 when $a = 10$, $b = 8$, and $c = 12$?

F. $4abc$ H. $2ac - 3b$

G. $a + 5b + 2c$ J. $6abc + 8$

17. Which quantity **cannot** be represented by the expression $0.20x$?

- A. The total cost of x text messages, where each text message costs \$0.20
- B. The total amount of calcium in x servings of a cereal that contains 0.2 gram of calcium per serving
- C. The area of a rectangle with length x and width 0.2
- D. The amount of change due when an item that costs \$0.20 is paid for with x dollars

18. Write two different phrases in words that describe the expression $7z$.

19. Write an algebraic expression...

- a. that has three terms. _____
- b. in which one term is the product of two variables. _____
- c. that is the sum of a product and a constant. _____

20. The distance from Ray's house to the shopping center is 3.5 miles more than the distance from Ray's house to the city park.

a. Let c equal the distance from Ray's house to the city park. Write an expression to represent the distance from Ray's house to the shopping center.

b. The distance from Ray's house to the city park is 2 miles. How can you use this information and your answer to part a to find the distance from Ray's house to the shopping center?

c. What is the distance from Ray's house to the shopping center?

21. a. What is the first step in finding the value of $12 + (6 + 4)$?

b. $12 + (6 + 4) =$ _____

c. What is the first step in finding the value of $(12 + 6) + 4$?

d. $(12 + 6) + 4 =$ _____

e. What property is demonstrated by your answers to parts b and d?
