



I. Evaluate the expression for the given value of x.

1. $4.5 + x^2$ when $x = 1.5$

2. $3(16-x) \div 2x$ when $x = 10$

3. $\frac{x}{4} + 6(x - 12)$ when $x = 12$

4. $0.5x^2 + x - 20$ when $x = 10$

II. Choose the correct answer and select it.

5. Find the prime factorization of 160

A. $1 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5$

B. $2 \times 2 \times 2 \times 10$

C. $2^4 \times 5$

D. $2 \times 2 \times 2 \times 2 \times 2 \times 5$

6. Find the LCM of 6 and 21.

A. 42

B. 3

C. 84

D. 126

7. Choose the correct equivalent expression using the Distributive Property

a. $2.2(3x + 2)$

$2.2 + 3x + 2$

$6.6x + 4.4$

8. Choose the correct equivalent expression using the Distributive Property

b. $4x + 8y$

$4 + x + 8 + y$

$2(2x + 4y)$

III. Identify equivalent expression.

9. $\frac{1}{4}(4m + 24)$

a. $1m + 48$

b. $1m + 6$

c. $8m + 6$

d. $1m + 24$

10. Which of the following expressions are equivalent? Select your answers.

a. $8x - 12x + 4$

b. $12x - 4(4x - 1)$

c. $4 - 4x$

d. $4(1 - 4x)$

11. Which of the following expressions is equivalent to $3(x + 4) - 6 + 5x$?

A. $3x + 12 - x$

C. $8x - 2$

B. $8x + 6$

D. $2x + 6$

IV. Complete the next questions about exponents.

12. Evaluate 2.5×10^4

13. Which of these is another way to write 2^6 ?

A. $2 \times 2 \times 2 \times 2 \times 2 \times 2$

C. $2 + 2 + 2 + 2 + 2 + 2$

B. 2×6

D. $2 + 6$

14. Write $9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9 \cdot 9$ using an exponent

a. $9 \cdot 7$

b. 7^9

c. 99^7

d. 9^7

V. Evaluate.

15. 12^5 _____

16. 0.7^3
A. 0.73 B. 2.1 C. 3.7 D. 0.343

VI. Find the value of the expression.

17. $4 \cdot 10 + 4$
A. -10 B. 18 C. 56 D. 44

18. $[2 \cdot (10 + 5)] - 5$
a. 12.5 b. 20 c. 25 d. 120

19. $4 \times 3 + 30 \div 5$
a. 47 b. 8.4 c. 18 d. 26.4

20. C divided by 7
a. $c - 7$ b. $7c$ c. $c + 7$ d. $c/7$

21. 10 times the product of g and h.
a. $10(g + h)$ b. $10(g - h)$ c. $10(g/h)$ d. $10gh$

VII. Resolve the next word problems using algebraic expression.

22. During a canned food drive, Bob collected 6 times as many cans as Tom. If t represents the number of cans that Tom collected, which algebraic expression represents the number of cans that Bob collected?

- A. $6t$ B. $7t$ C. $6+t$ D. $7+t$

23. Mike is 3 inches more than two times as tall as his younger brother Jake. If Jake is h inches tall, which expression describes Mike's height?

- A. $2h + 3$ B. $2h - 3$ C. $2(h - 3)$ D. $2(h + 3)$

24. A child's ticket for a sightseeing cruise of the San Juan Islands costs \$5 less than an adult's ticket. If a represents the cost of an adult's ticket, which expression represents the cost of a child's ticket?

- A. $5 + a$ B. $a - 5$ C. $5a$ D. $5 - a$

VIII. Translate algebraic expression and match them with the correct number.

25. The sum of two-thirds of f , three-fourths of c , and 2

_____ $\frac{2}{3}f + \frac{3}{4}c + 2$

26. Subtract 2 from 3 times m

_____ $x - 3$

27. One-sixth of k is added to the product of 6 and g

_____ $p - 8$

28. One-sixth of k is added to the product of 6 and g

_____ $\frac{1}{6}k + 6g$

29. 3 is subtracted from x

_____ $9 + q$

30. Take away 8 from p

_____ $3m - 2$