EJMS Mathematics Chapter 5 Pre-Test

Multiple Choice
*Identify the choice that best completes the statement or answers the question.*

____ 1. Find the value of $4^2$.
   a. 42  
   b. 8  
   c. 16  
   d. 6

____ 2. Order the numbers $5^2$, $8$, $2^6$, $6^2$, $7^1$ from least to greatest.
   a. $8$, $7^1$, $6^2$, $2^6$, $5^2$  
   b. $7^1$, $8$, $5^2$, $6^2$, $2^6$  
   c. $8$, $7^1$, $6^2$, $2^6$, $5^2$  
   d. $7^1$, $8$, $5^2$, $6^2$, $2^6$

____ 3. Simplify the expression $45 + 16 \times 2 \div 4 - 6$.
   a. 24.5  
   b. 13.25  
   c. 47  
   d. 29

____ 4. Simplify the expression $[(1 + 4 \times 3) - 5]^2$.
   a. $-12$  
   b. $76$  
   c. 100  
   d. 64

____ 5. In an online media store, downloaded songs cost $3 each and books cost $9 each. Taji paid $7 in sales tax when he purchased 15 songs and 3 books. Write and simplify an expression to show how much Taji spent on everything, including sales tax.
   a. $37$  
   b. $223$  
   c. $151$  
   d. $79$

   a. 11  
   b. 37  
   c. 312  
   d. $24n + 13$

____ 7. Evaluate $7y - 2$ for $y = 9$.
   a. 49  
   b. 61  
   c. $9y - 2$  
   d. 77

____ 8. Write the phrase as an algebraic expression.
   4 times the sum of a number and 20
   a. $20 \div y$  
   b. $20 + y$  
   c. $4(y + 20)$  
   d. $4y - 20y$
9. A fence has a total of 650 planks. Violeta paints \( n \) planks each day. Write an algebraic expression for how many days it will take Violeta to finish painting the fence.
   a. \( \frac{650}{n} \)
   b. \( \frac{n}{650} \)
   c. \( 650n \)
   d. \( 650 - n \)

10. Write an expression for the perimeter of the trapezoid. Then, simplify the expression.

   \[ a = 2a + x + 2a + y; 4a + x + y \]
   \[ b = 2a + x + 2a + y; 4a + xy \]
   \[ c = 2a + x + 2a + y; 4a^2 + x + y \]
   \[ d = 2a + x + 2a + y; 4a + xy \]

11. Thomas wants to display leaf specimens for a science fair. Thomas has 25 leaves, which is 19 fewer than the total needed. Will the science display have a total of 45 leaves, 44 leaves, 6 leaves, or 54 leaves?
   a. 54 leaves
   b. 44 leaves
   c. 45 leaves
   d. 6 leaves

12. Evaluate the expression for the given value of the variable.
   \[ 6(x - 6) + 4 \] for \( x = 8 \)
   a. 88
   b. 6(8x - 6) + 4
   c. 16
   d. 46

13. The students in the astronomy club are selling snacks to raise money for a planetarium field trip. If they sell \( x \) muffins at $0.35 apiece and \( y \) bags of carrot sticks at $0.15 apiece, the total number of dollars raised will be \( T = 0.35x + 0.15y \). How many dollars will they raise if they sell 210 muffins and 120 bags of carrot sticks?
   a. $73.50
   b. $330.50
   c. \( T = 210x + 120y \) dollars
   d. $91.50

14. If Molly scored a total of 27 points in the basketball game and she scored \( n \) points in the last half of the game, write an expression to determine the number of points she scored in the first half of the game. Then evaluate the expression for \( n = 2 \).
   a. \( 27 - n \); 25 points
   b. \( 27 + n \); 29 points
   c. \( \frac{27}{n} \); 25 points
   d. \( 27n \); 29 points

15. Use properties to determine whether the expressions are equivalent.
   \( 8(9x - 2) \) and \( 72x - 2 \)
   a. yes
   b. no
16. At a crafts fair, Sonia sold necklaces for $21, $23, $39, and $27. Use properties and mental math to find how much money she made in all.
   a. $60
   b. $120
   c. $110
   d. $55

17. Evaluate $a^x - (b \cdot c) \div d$ for $a = 7$, $b = 3$, $c = 2$, $d = 6$, and $x = 2$.

18. Simplify $(-2)^2$.


20. Write $(b)(b)(b)(b)(b)$ in exponential form.

21. Evaluate $g + (-15)$ for $g = -12$.

22. Add.
   $2 + (-5)$

23. Use the Distributive Property to find $7(51)$. 