Name: _____ Class: _____ Date: _____ ID: A

Grade 6 Unit 3 Pre-Test

1. **Write an expression for the missing value in the table.**

Tom's Age (a)	Kim's Age
12	15
13	16
14	17
a	?

a. $a+3$ b. $a+12$ c. $a+1$ d. $a+17$

2. **Write an expression for the sequence in the table.**

Position (n)	1	2	3	4	5	n
Value of Term	5	8	11	14	17	?

a. $2n-1$ b. $3n+2$ c. $2n$ d. $n+4$

3. **Write an expression to describe the relationship of the data in the table.**

n	□
2	10
3	15
4	20
5	25

a. $n+8$ b. $5n$ c. $8n$ d. $\frac{n}{4}$

4. **Fill in the Blanks**
$4x + 6y - 7$

Constant =_____
Coefficien t= _____ _____
Variable = _____ _____
Terms = _____ _____ _____

5. **Name the following parts of the given expression.**

$6x + 5y + 8$

Terms _____ _____ _____

Coefficient _____

Constant _____

6. Write two phrases for the expression y-16.

7. Write the phrase "24 groups of y" as an algebraic expression.

8. Susie has 6 times as many games as both Tammy and Jamie combined. If Tammy has T games and Jamie has J games, which expression shows how many games Susie has?

   a. $T + J$ b. $6T + J$ c. $6T + 4J$ d. $6(T + J)$

9. Abby sells charm bracelets. She charges $15 for the bracelet and $3 for each charm. Which expression can be used to find the total cost of a charm bracelet with C charms?

   a. $3C + 10$ b. $8C$ c. $15C + 3$ d. $15 + 3C$

10. Which Expression is equivalent to the one below:
    $(t + f) + 2$

    a. $t + (f+2)$ b. $tf + 2f$ c. $ft + 2$ d. $2ft$

11. **Evaluate the expression.**
    $60 - 2m$ for $m = 4$
    a. 68 b. 58 c. 52 d. 62

12. **Evaluate the expression.**

    To find the gasoline economy figure for a car in miles per gallon (mpg), you can use the expression $d \div g$, where d represents the distance traveled by the car, and g represents the number of gallons of gasoline used. Find the gasoline economy figure for a car that travels 340 miles on 10 gallons of gasoline.
    a. 350 mpg b. 3,400 mpg c. 32 mpg d. 34 mpg

13. **Evaluate the following expression for x = 2 and y = 6**

    $x^3 + (y+4) \div x$

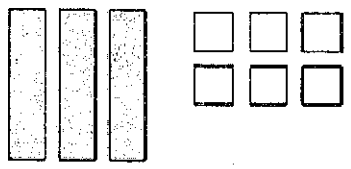
14. **Simplify the expression by combining like terms**

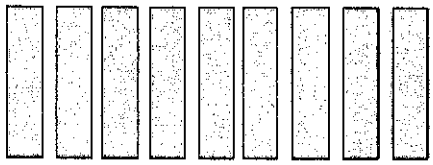
    $6x + 5 - 2x - 4 + 6x + 8$

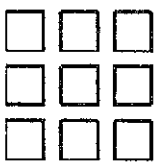
15. **Simplify the expression by combining like terms**

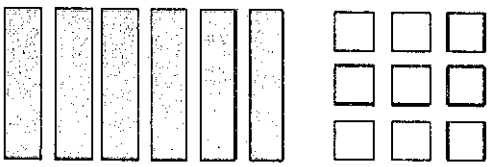
    $10z + 3x + 6y + 2x - 5z + 8y$

16. Identify the algebra tiles that model $6x + 9$

    a. 

    b. 

    c. 

    d. 

17. Draw algebra tiles that model 4x + 5.

18. **Simplify the expression using the Distributive Property. Draw Algebra Tiles to represent the new expression.**

    2(x + 4)

19. **Which Expression is equivalent to the following:**
    9(2x+3x) - 1
    a. 45x - 1 b. 12x - 1 c. 45x - 9 d. 36x - 1

20. **Use the Distributive Property to rewrite the following addition problem.**

    20 + 35

21. Select all the expressions that are equivalent to 8(t + 4)

    2 (4t +2)
    8t + 32
    4t + 4 + 4t
    (8 + t) + (8 + 4)
    (8 x t) + (8 x 4)

22. Place the expressions in the appropriate boxes.

Equivalent to 3y + 3	Not Equivalent to 3y + 3

3(y) + 1 2y + y + 3 3 (y + 1) 3(y) + 1y

23. 99 + 72 = 9(11 + ?) Consider the equation showing the Distributive Property. Enter the unknown value that would make the equation true.

24. Select all of the expressions that are equivalent to c + c + 4 + c + c

$4c^4$ $4 + c^4$ 4 + 4c 4(1+c)