



Mathematics Packet

Grade 6

Name _____

Class/Grade _____

Dear Educational Champions,

During this break, 6th grade scholars will work on this packet which is aligned with the common core standards to enhance and reinforce strategies. Packets are due once we return.

1. Which two expressions are equivalent for any value of y ?

- A. $3(3y + 3)$ and $6y + 6$ B. $3(3y + 3)$ and $9y + 6$ C. $9(y + 3)$ and $12 + 9y$ D. $9(y + 3)$ and $27 + 9y$

2. What is the solution of the equation below?

$$x + 8.63 = 11.001$$

- A. $x = 19.631$ B. $x = 10.138$ C. $x = 3.471$ D. $x = 2.371$

5. Kelly saves \$5 every week. Which expression represents the amount of money, in dollars, Kelly will save in w weeks?

A. $5 + w$

B. $5 - w$

C. $5w$

D. $\frac{5}{w}$

6. Which expression is equivalent to the expression below?

$$g + g + g + g + g + g$$

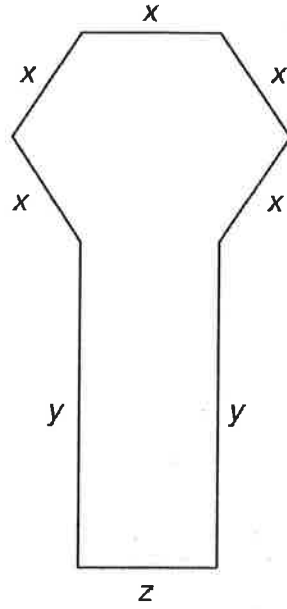
A. $6 + g$

B. g^6

C. $6g$

D. $\frac{g}{6}$

9. Which expression represents the perimeter of the figure below?



A. $5x + 2y$

B. $x + y + z$

C. $5x + 2y + z$

D. $(5 + 2 + 1)(x + y + z)$

10. Which expression is equivalent to $60 - 3y - 9$?

A. $3(17 - y)$

B. $3(20 - y) - 3$

C. $17(3 - y)$

D. $20(3 - 3y) - 9$

13. Which phrase is a description of $2m + 7$?

A. 7 more than 2 times m

B. 2 more than 7 times m

C. 2 times the sum of 7 and m

D. 7 times the sum of 2 and m

14. Which pair of expressions below is equivalent?

A. $x + y + x + y$ and $2(x + y)$

B. $5(2x - 3y)$ and $10x - 3y$

C. $4x - 5y$ and $5y - 4x$

D. $9x + 2y$ and $11xy$

17. Expressions A , B , and C are shown below.

A	B	C
$20^2 - 18^2$	$8(4^2) + 2^4$	$15^2 - 3^4$

Which expression or expressions have the same value as 12^2 ?

18. What is the value of the expression below?

$$2[3(4^2 + 1)] - 2^3$$

A. 156

B. 110

C. 94

D. 48

21. Which expression is equivalent to $5(6x + 3y)$?

A. $11x + 3y$

B. $11x + 8y$

C. $30x + 3y$

D. $30x + 15y$

22. Which quantity could go in the blank to make the equation below true?

$$x + 2x + \underline{\hspace{1cm}} = 5x$$

A. 2

B. 3

C. $2x$

D. $3x$

25. The set of numbers 1, 7, 11, and 36 contains values for m . What value of m makes the equation below true?

$$4m + 8 = 36$$

A. 1

B. 7

C. 11

D. 36

26. Zelma buys p pounds of bananas for 40 cents per pound. She pays the clerk with a twenty-dollar bill. The clerk subtracts the total cost of the bananas from the twenty-dollar bill to determine the amount of change to give Zelma.

Which expression represents the amount of change Zelma should receive?

A. $p - 20$

B. $20 - 40p$

C. $20 - 0.40p$

D. $0.40p - 20$

29. What is the value of the expression below when $z = 7$?

$$3z - 3$$

A. 12

B. 18

C. 21

D. 34

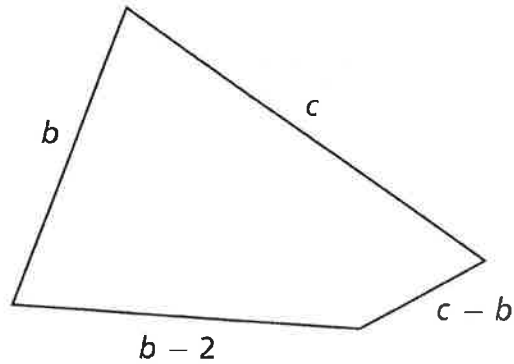
30. Ms. Peterson wrote the expression below on the chalkboard for her class. She asked the students to write an equivalent expression using no more than one set of parentheses.

$$4(3x + 5y + 2z) + 3(x - z)$$

- Tom wrote $12x + 20y + 8z$
- Jenna wrote $5(3x + 4y + z)$
- Chris wrote $15x + 20y - 5z$

Which, if any, of the three students wrote an expression that is equivalent to Ms. Peterson's expression?

33. In the diagram of a quadrilateral below, the variables represent the lengths of the sides, in inches.



[not drawn to scale]

Write an expression using the variables b and c that could be used to find the perimeter of the quadrilateral.

If $b = 11$ and $c = 16$ what is the perimeter of the quadrilateral?

34. Tom wants to order tickets online so that he and three of his friends can go together to a water park. The cost of the tickets is \$16.00 per person. There is also a \$2.50 one-time service fee for ordering tickets online. Write an expression in terms of n that represents the cost for ordering n tickets online.

Use your expression to find the total cost for ordering 4 tickets online.