Week 6 HW Days 3 and 4

Name: _____ **Date:** _____

1. Which expression is equivalent to the expression below?

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

A. $6 + g$ B. g^6 C. $6g$ D. $\frac{g}{6}$

2. Find the value of the expression.

$$24\tfrac{3}{5} + 4^3 \times (8\tfrac{1}{5} - 2)$$

3. Which expression is equivalent to $8x - 2y + x + x$?

A. $4x$ B. $8x$

C. $6x - 2y$ D. $10x - 2y$

4. To convert a temperature from degrees Celsius to degrees Fahrenheit, the temperature in degrees Celsius is multiplied by 1.8, and then 32 is added to the product.

   Write an expression that can be used to convert a temperature from degrees Celsius, C, to degrees Fahrenheit, and then use that expression to convert 25 degrees Celsius to degrees Fahrenheit.

5. Which expression is equivalent to $5(d + 1)$?

A. $5d + 5$ B. $5d + 1$

C. $d + 5$ D. $d + 6$

6. Which two expressions are equivalent?

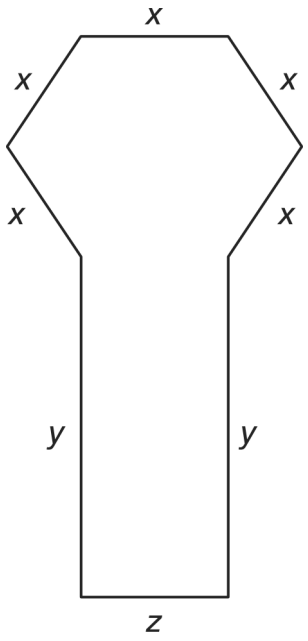
A. $x + x + x$ and x^3

B. $14x + 10 - 2x$ and $16x + 10$

C. $12x + 16x$ and $4(3x + 4x)$

D. $12x^2 + 5x + 10$ and $17x^2 + 10$

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



A. $5x + 2y$

B. $x + y + z$

C. $5x + 2y + z$

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

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

A. $3(17 - y)$ B. $3(20 - y) - 3$

C. $17(3 - y)$ D. $20(3 - 3y) - 9$

9. Evaluate:

$$6^3 + 7 \times 4$$

A. 100 B. 244 C. 757 D. 892

10. Which pair of expressions is equivalent?

A. $4(6x)$ and $10x$ B. $4(6x)$ and $24x$

C. $4x + 6x$ and $10x^2$ D. $4x + 6x$ and $24x$

11. 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 $11xy$

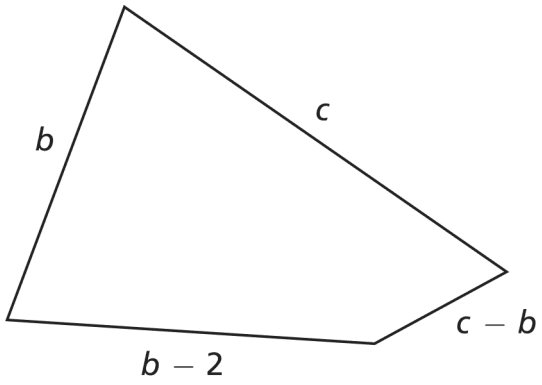
12. Which expression represents the phrase below?

8 less than the product of 6 and a number, x

A. $8 - 6x$ B. $6x - 8$

C. $(6 + x) - 8$ D. $8 - (6 + x)$

13. 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?

14. Which pair of expressions below are equivalent?

A. $7(2x)$ and $9x$

B. $3x + 5x$ and $15x$

C. $4(2x - 6)$ and $8x - 24$

D. $x + x + x + x$ and x^4

15. Which expression is represented by the phrase "the square of y decreased by the quotient of 28 and 7"?

A. $\frac{28}{7} - y^2$ B. $y^2 - \frac{28}{7}$

C. $\frac{28}{7 - y^2}$ D. $\frac{28}{y^2 - 7}$

16. 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?

17. What is the value of the expression below?

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

A. 156 B. 110 C. 94 D. 48

18. Which pair of expressions is equivalent for any variable value greater than zero?

A. $3(x + 2)$ and $3x + 2$

B. $4d + 2e$ and $8d + e$

C. $f + f + f + g$ and $3fg$

D. $b + b + 3c$ and $2b + 3c$

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

A. $11x + 3y$ B. $11x + 8y$

C. $30x + 3y$ D. $30x + 15y$

20. The formula below is used to convert a temperature in degrees Celsius, C, to a temperature in degrees Fahrenheit, F.

$$F = 1.8C + 32$$

The high temperature in a mountain city was 15°C. What was the high temperature in degrees Fahrenheit?

21. Which expression is equivalent to $16a + 24b$?

A. $4(4a + 20b)$ B. $8(2a + 3b)$

C. $4a(4 + 6b)$ D. $8ab(2 + 3)$

22. Which expression is equivalent to $3(6m) + m$?

A. $19m$ B. $21m$

C. $7m + 3$ D. $18m + 6m^2$

23. 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?