Name_____ Class_____ Date_____

1-3 Practice

Form G

Algebraic Expressions

Write an algebraic expression that models each word phrase.

1. seven less than the number t

2. the sum of 11 and the product of 2 and a number r

Write an algebraic expression that models each situation.

3. Arin has \$520 and is earning \$75 each week babysitting.

4. You have 50 boxes of raisins and are eating 12 boxes each month.

Evaluate each expression for the given values of the variables.

5. $-4v + 3(w + 2v) - 5w$; $v = -2$ and $w = 4$

6. $c(3 - a) - c^2$; $a = 4$ and $c = -1$

7. $2(3e - 5f) + 3(e^2 + 4f)$; $e = 3$ and $f = -5$

Surface Area The expression $6s^2$ represents the surface area of a cube with edges of length s. What is the surface area of a cube with each edge length?

8. 3 inches

9. 1.5 meters

The expression $4.95 + 0.07x$ models a household's monthly long-distance charges, where x represents the number of minutes of long-distance calls during the month. What are the monthly charges for each number of long-distance minutes?

10. 73 minutes

11. 29 minutes

Simplify by combining like terms.

12. $5x - 3x^2 + 16x^2$

13. $\frac{3(a-b)}{9} + \frac{4}{9}b$

14. $t + \frac{t^2}{2} + t^2 + t$

15. $4a - 5(a + 1)$

16. $-2(j^2 - k) - 6(j^2 + 3k)$

17. $x(x - y) + y(y - x)$

Name_____ Class_____ Date _____

1-3 Practice (continued) Form G

Algebraic Expressions

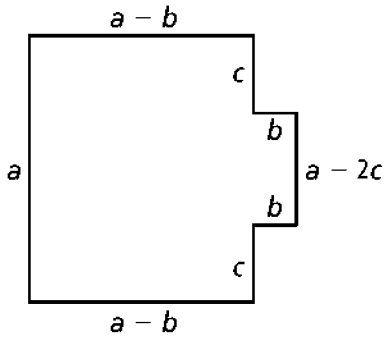
18. In a soccer tournament, teams receive 6 points for winning a game, 3 points for tying a game, and 1 point for each goal they score. What algebraic expression models the total number of points that a soccer team receives in a tournament? Suppose one team wins two games and ties one game, scoring a total of five goals. How many points does the team receive?

Evaluate each expression for the given value of the variable.

19. $-t^2 - (3t + 2)$; $t = 5$

20. $i^2 - 5(i^3 - i^2)$; $i = 4$

21. Perimeter Write an expression for the perimeter of the figure at the right as the sum of the lengths of its sides. What is the simplified form of this expression?



22. Simplify $-(2x - 5y) + 3(4x + 2y)$ and justify each step in your simplification.

23. Error Analysis Alana simplified the expression as shown. Do you agree with her work? Explain.

$2(x + 4) - (5x - 7)$
$2x + 4 - 5x - 7$
$-3x - 3$

24. Open-Ended Write an example of an algebraic expression that always has the same value regardless of the value of the variable.

Match the property name with the appropriate equation.

25. Opposite of a Difference

26. Opposite of a Sum

27. Opposite of an Opposite

28. Multiplication by 0

29. Multiplication by –1

30. Distributive Property

A. $-[(-r) + 2p] = -(-r) - 2p$

B. $16d - (3d + 2)(0) = 16d - 0$

C. $5(2 - x) = 10 - 5x$

D. $-(4r + 3s) + t = (-1)(4r + 3s) + t$

E. $-(8 - 3m) = 3m - 8$

F. $-[-(9 - 2w)] = 9 - 2w$