

1-3

Practice

Form K

Algebraic Expressions

Write an algebraic expression that models each word phrase.

1. six less than the number r

To start, relate what you know. “Less than” means subtraction.

Describe what you need to find. Begin with the number r and subtract 6.

2. twelve more than the number b

3. five times the sum of 3 and the number m

Write an algebraic expression that models each situation.

4. Alexis has \$250 in her savings account and deposits \$20 each week for w weeks.

5. You have 30 gallons of gas and you use 5 gallons per day for d days.

Evaluate each expression for the given values of the variables.

6. $-2a + 5b + 6a - 2b + a$; $a = -3$ and $b = 2$

To start, substitute the value
for each variable.

$$-2(-3) + 5(2) + 6(-3) - 2(2) + (-3)$$

7. $y(3 - x) + x^2$; $x = 2$ and $y = 12$

8. $3(4e - 2f) + 2(e + 8f)$; $e = -3$ and $f = 10$

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?

9. 4 centimeters

10. 2.5 feet

1-3**Practice** (continued)

Form K

Algebraic Expressions**Write an algebraic expression to model the total score in each situation.****Then evaluate the expression to find the total score.**

- 11.** In the first half, there were fifteen two-point shots, ten three-point shots and 5 one-point free throws.

To start, define your variables. Let w = the number of two-point shots, r = the number of three-point shots, and f = the number of one-point free throws.

- 12.** In the first quarter, there were two touchdowns and 1 extra point kick.

Hint: A touchdown is worth 6 points. An extra point kick is worth 1 point.

Simplify by combining like terms.

13. $10b - b$

14. $12 + 8s - 3s$

15. $3a + 2b + 6a$

16. $5m + 2n + 6m + 4n$

17. $8r - (3s - 5r)$

18. $2.5y - 4y$

The expression $19.95 + 0.05x$ models a household's monthly Internet charges, where x represents the number of online minutes during the month. What are the monthly charges for each number of online minutes?

19. 65 minutes

20. 128 minutes

Evaluate each expression for the given value of the variable.

21. $3a + (2a + 6)$; $a = 2$

22. $x - 5(x + 2)$; $x = -5$

23. $-r + (3r^2 + 1)$; $r = 4$

24. $x^2 - 5(3x - 12)$; $x = 10$