Practice 2.1: Identifying Terms, Factors, and Coefficients B

Use what you know about the components of expressions to complete problems 1–3.

1. Identify the terms, coefficients, constant term, and factors of $30x^2 - 18x + 72$.

2. Simplify the expression $5x + 4(5x - x) - 2x(6)$ and classify it as a monomial, binomial, or trinomial.

3. Write a quadratic expression that contains three terms, coefficients of –1 and 1, and a constant of 52.

For problems 4 and 5, determine whether each expression is a quadratic expression. Explain your reasoning.

4. $20x(4 - 5x) + 3(x - 8)$

5. $12x(x^2 - 4x) - 2(3 + x)$

continued

For problems 6–10, write an algebraic expression. Identify the terms, coefficients, and constant terms of the algebraic expression. Determine whether the expression is quadratic and explain your reasoning.

6. the product of 9 and x, decreased by the sum of 8 ad the square of x

7. double the sum of 2 and x increased by one-half x^2

8. the area of a square, which is the square of its side, s

9. the volume of a cube, which is the cube of the length of its side, s

10. the surface area of a sphere with radius r, which is four times the product of π and the square of the radius