Practice 1.3.1: Identifying Terms, Factors, and Coefficients A

For problems 1 and 2, simplify each expression if possible, and then list the terms of the simplified expression. Identify the constant term and the factors and coefficients of non-constant terms.

1. $12a^3 + 16a + 4$

2. $21x^2 + 3x - 15x^2 + 9$

For problems 3 and 4, translate each verbal expression into an algebraic expression. Then, list the terms of the given expressions, and identify the constant term and the factors and coefficients of non-constant terms.

3. half the sum of x and y, decreased by one-third y

4. the product of 5 and the cube of x, increased by the difference of 6 and x^3

For problem 5, write an expression that has the given terms and coefficients.

5. Write an expression with 4 terms, containing the coefficients 3, 6, and 9.

continued

For problems 6–10, write an algebraic expression to describe each situation. Then, list the terms of the expressions. Identify the constant term and the factors and coefficients of non-constant terms.

6. Gavin agrees to buy a 6-month package deal of monthly gym passes, and in turn receives a 15% discount. Write an algebraic expression to represent the total cost of the monthly passes with the discount, if x represents the cost of each monthly pass.

7. Andre purchased 10 packs of trading cards online and received a 20% discount off each pack. Shipping cost $3.99. Write an algebraic expression to represent the total cost of the trading cards with the shipping cost, if x represents the cost of each pack of cards.

8. Nadia and some friends went to a movie. Their total cost was $30.24, which included taxes of $2.24. Write an algebraic expression to represent the price of each movie ticket, not including taxes. Let x represent the number of Nadia's friends who went to the movies.

9. Write an expression to represent the area of a trapezoid, which can be found by multiplying the height of the trapezoid by half of the sum of $base_1$ and $base_2$.

10. The surface area of a cylinder with radius r and height h is twice the product of π and the square of the radius plus twice the product of π, the radius, and the height.