1. Identify the terms (quadratic, linear or linear) and coefficients of $16x^2 - 12x + 20$. Then, classify it as a monomial, binomial, or trinomial.

2. Simplify the expression $-3x(x+14)$. Identify the terms (quadratic, linear or constant) and coefficients. Then, classify it as a monomial, binomial, or trinomial.

3. Simplify the expression $3x^2 + 2(5 - x^2) - 8(x^2 + 9)$. Identify the terms (quadratic, linear or constant) and coefficients. Then, classify it as a monomial, binomial, or trinomial.

4. Simplify the expression $8x^2 - 2x(1 + 4x) + 2$. Identify the terms (quadratic, linear or constant) and coefficients. Then, classify it as a monomial, binomial, or trinomial.

5. Write a quadratic expression that contains two terms, a coefficient of 7, and a constant of 10.

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

6. The product of 7 and the square of x, increased by the difference of 5 and x^2

7. Half the sum of 12 and x^2 decreased by one-third x

8. The perimeter of a square is the product of 4 and the length of its side, s.

9. The surface area of a cube is the product of 6 and the square of the side length, s.

10. The volume of a sphere with radius r is four-thirds times the product of π and the cube of the radius.

11. Find the perimeter of the rectangle below in terms of x. Identify the terms (quadratic, linear or constant) and coefficients. Then, classify it as a monomial, binomial, or trinomial.

$3x^2 + 6x - 10$

$3x + 5$
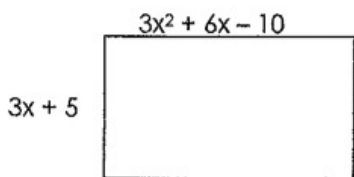
12 If the perimeter of the pentagon below is $7x^4 + 9x^3 - 6x^2 + 10$, what is the length of the missing side?

$3x^4 - 4$ $5x^3 - 2x^2$

$4x^3 + 6x$?

$4x^4 - 2x^2 - 3x$