

# 8-1 Practice

## Adding and Subtracting Polynomials

Find each sum or difference.

1.  $(4y + 5) + (-7y - 1)$

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

3.  $(5a^2 + 6a + 2) - (7a^2 - 7a + 5)$

4.  $(-4p^2 - p + 9) + (p^2 + 3p - 1)$

5.  $(4y^2 + 2y - 8) - (7y^2 + 4 - y)$

6.  $(w^2 - 4w - 1) + (-5 + 5w^2 - 3w)$

Determine whether each expression is a polynomial. If it is a polynomial, find the degree and determine whether it is a *monomial*, *binomial*, or *trinomial*.

7.  $7a^2b + 3b^2 - a^2b$

8.  $\frac{1}{5}y^3 + y^2 - 9$

9.  $6g^2h^3k$

10.  $\frac{x + 3x^4 - 21x^2}{x^3}$

Write each polynomial in standard form. Identify the leading coefficient.

11.  $8x^2 - 15 + 5x^5$

12.  $10x - 7 + x^4 + 4x^3$

13.  $13x^2 - 5 + 6x^3 - x$

14.  $4x + 2x^5 - 6x^3 + 2$

15. **BUSINESS** The polynomial  $s^3 - 70s^2 + 1500s - 10,800$  models the profit a company makes on selling an item at a price  $s$ . A second item sold at the same price brings in a profit of  $s^3 - 30s^2 + 450s - 5000$ . Write a polynomial that expresses the total profit from the sale of both items.