Name_____ Date _____

Core Concepts

Polynomials

A **polynomial** is a monomial or a sum of monomials. Each monomial is called a *term* of the polynomial. A polynomial with two terms is a **binomial**. A polynomial with three terms is a **trinomial**.
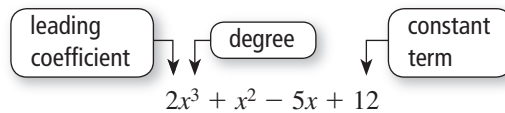
Binomial	Trinomial
$5x + 2$	$x^2 + 5x + 2$

The **degree of a polynomial** is the greatest degree of its terms. A polynomial in one variable is in **standard form** when the exponents of the terms decrease from left to right. When you write a polynomial in standard form, the coefficient of the first term is the **leading coefficient**.

leading coefficient | degree | constant term

$$2x^3 + x^2 - 5x + 12$$

Notes:

Extra Practice

In Exercises 1–8, find the degree of the monomial.

1. $-6s$ **2.** w **3.** 8 **4.** $-2abc$

5. $7x^2 y$ **6.** $4r^2 s^3 t$ **7.** $10mn^3$ **8.** $\dfrac{2}{3}$

7.1 **Notetaking with Vocabulary** (continued)

In Exercises 9–12, write the polynomial in standard form. Identify the degree and leading coefficient of the polynomial. Then classify the polynomial by the number of terms.

9. $x + 3x^2 + 5$ **10.** $\sqrt{5}\, y$ **11.** $3x^5 + 6x^8$ **12.** $f^2 - 2f + f^4$

In Exercises 13–16, find the sum.

13. $(-4x + 9) + (6x - 14)$ **14.** $(-3a - 2) + (7a + 5)$

15. $(x^2 + 3x + 5) + (-x^2 + 6x - 4)$ **16.** $(t^2 + 3t^3 - 3) + (2t^2 + 7t - 2t^3)$

In Exercises 17–20, find the difference.

17. $(g - 4) - (3g - 6)$ **18.** $(-5h - 2) - (7h + 6)$

19. $(-x^2 - 5) - (-3x^2 - x - 8)$ **20.** $(k^2 + 6k^3 - 4) - (5k^3 + 7k - 3k^2)$