9 CHAPTER REVIEW

REVIEW KEY VOCABULARY

- monomial, *p. 554*
- degree of a monomial, *p. 554*
- polynomial, *p. 554*
- degree of a polynomial, *p. 554*
- leading coefficient, *p. 554*
- binomial, *p. 555*
- trinomial, *p. 555*
- roots, *p. 575*
- vertical motion model, *p. 577*
- perfect square trinomial, *p. 601*
- factor by grouping, *p. 606*
- factor completely, *p. 607*

VOCABULARY EXERCISES

1. Copy and complete: The greatest degree of the terms in a polynomial is called the __?__.

2. **WRITING** Is $2x^{-1}$ a monomial? *Explain* why or why not.

3. **WRITING** What does it mean for a polynomial to be factored completely? Give an example of a polynomial that has been factored completely.

In Exercises 4–6, match the polynomial with its classification.

4. $5x - 22$ **5.** $-11x^3$ **6.** $x^2 + x + 1$

A. Monomial **B.** Binomial **C.** Trinomial

REVIEW EXAMPLES AND EXERCISES

Use the review examples and exercises below to check your understanding of the concepts you have learned in each lesson of Chapter 9.

9.1 Add and Subtract Polynomials *pp. 554–559*

EXAMPLE

Find the difference $(3x^2 + 2) - (4x^2 - x - 9)$.

Use a vertical format.

$$\begin{array}{rr} & 3x^2 + 2 \\ - & (4x^2 - x - 9) \end{array} \quad \rightarrow \quad \begin{array}{rr} & 3x^2 + 2 \\ + & -4x^2 + x + 9 \\ \hline & -x^2 + x + 11 \end{array}$$

EXAMPLES 3 and 4 on pp. 555–556 for Exs. 7–12

EXERCISES

Find the sum or difference.

7. $(9x + 6x^3 - 8x^2) + (-5x^3 + 6x)$

8. $(7a^3 - 4a^2 - 2a + 1) + (a^3 - 1)$

9. $(11y^5 + 3y^2 - 4) + (y^2 - y + 1)$

10. $(3n^2 - 4n + 1) - (8n^2 - 4n + 17)$

11. $(2s^3 + 8) - (-3s^3 + 7s - 5)$

12. $(-k^2 + 7k + 5) - (2k^4 - 3k^3 - 6)$