Study Guide

What's the chapter about?

Chapter 10 is about **polynomials and factoring**. In Chapter 10 you'll learn

- how to add, subtract, and multiply polynomials.
- how to factor polynomials.
- how to solve polynomial equations by factoring.

KEY VOCABULARY

▶ **Review**
- **distributive property, p. 100**
- **like terms, p. 102**
- ***x*-intercept, p. 218**
- **parabola, p. 518**
- **quadratic formula, p. 533**
- **vertical motion model, p. 535**
- **discriminant, p. 541**

▶ **New**
- **polynomial, p. 576**
- **FOIL pattern, p. 585**
- **factored form, p. 597**
- **zero-product property, p. 597**
- **factor a quadratic expression, p. 604**
- **factor completely, p. 625**

Are you ready for the chapter?

SKILL REVIEW Do these exercises to review key skills that you'll apply in this chapter. See the given **reference page** if there is something you don't understand.

Apply the distributive property. Combine like terms. (Review Examples 2 and 3, p. 101 and Example 5, p. 102)

1. $3x(x + 6)$ **2.** $(2 - 4x)7$ **3.** $-4(x + 5)$ **4.** $(8 - 2x)(-8)$

5. $2(x - 3) + x$ **6.** $5x + 3(1 - x)$ **7.** $-(x + 4) - x$ **8.** $2x^2 - x(1 + x)$

Simplify the expression. (Review pp. 450 and 451)

9. $x^5 \cdot x^4 \cdot x$ **10.** $(x^6)^2$ **11.** $(-2ab)^3$ **12.** $(3xy^4)^2 \cdot x^2$

Find the discriminant. Tell if the equation has *two solutions*, *one solution*, **or** *no real solution*. (Review Example 1, p. 541)

13. $3x^2 - 4x + 6 = 0$ **14.** $5x^2 + 6x - 8 = 0$ **15.** $2x^2 - 12x + 18 = 0$

▶ **Study Tip**
"Student Help" boxes throughout the chapter give you study tips and tell you where to look for extra help in this book and on the Internet.

Here's a study strategy!

Working on Trouble Spots

Look through the chapter and identify your trouble spots: questions that you had difficulty answering or homework exercises that you solved incorrectly. Review the material covering these topics and then try to answer the questions again.