Study Guide

What's the chapter about?

Chapter 7 is about **powers, roots, and radicals**. In Chapter 7 you'll learn

- how to use rational exponents and nth roots of numbers.
- how to perform operations with and find inverses of functions.
- how to graph radical functions and solve radical equations.

KEY VOCABULARY

▶ **Review**
- exponent, p. 11
- relation, p. 67
- function, p. 67
- square root, p. 264

▶ **New**
- nth root of a, p. 401
- power function, p. 415
- composition, p. 416
- inverse function, p. 422
- radical function, p. 431

- measure of central tendency, p. 445
- measure of dispersion, p. 446
- box-and-whisker plot, p. 447
- histogram, p. 448
- frequency distribution, p. 448

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.

Solve the equation for y. (Review Example 1, p. 26)

1. $3x - 2y = 12$ **2.** $x + \frac{1}{2}y = 5$ **3.** $x = 4y - 1$

Factor the trinomial. (Review Examples 1 and 2, p. 256)

4. $x^2 + 10x + 21$ **5.** $x^2 + 5x - 36$ **6.** $2x^2 - 16x + 30$

Simplify the expression. (Review Example 2, p. 324)

7. $\left(abc^2\right)^4$ **8.** $x^5 \cdot x^{-3}$ **9.** $\left(\dfrac{x^2}{y}\right)^2$ **10.** $\dfrac{3x}{y} \cdot \dfrac{3x^2y^{-2}}{12y^3}$

Perform the indicated operation. (Review Examples 1–6, pp. 338 and 339)

11. $5x^2(x - 8)$ **12.** $(3y - 2)^2$ **13.** $(7x^2 + x) - (6x - 4)$

Here's a study strategy!

Quiz Yourself

After you complete a homework assignment, copy a few representative problems from the assignment on a separate piece of paper. Record the lesson number for the problems and leave space for the answers. You can use these problems to quiz yourself later, such as before a class quiz is given.