

CHAPTER 3

Study Guide

PREVIEW

What's the chapter about?

Chapter 3 is about **solving linear equations**. In Chapter 3, you'll learn

- techniques for solving linear equations systematically.
- ways to apply ratios, rates, percents, and problem solving strategies.

KEY VOCABULARY

► Review

- solution of an equation, p. 24
- opposites, p. 65
- distributive property, p. 100
- reciprocal, p. 108

► New

- equivalent equations, p. 132
- inverse operations, p. 132
- linear equation in one variable, p. 133
- ratio of a to b , p. 140
- identity, p. 155
- formula, p. 174
- rate of a per b , p. 180

PREPARE

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.

Find the percent of the number. (Skills Review, p. 786)

1. 11% of 650 2. 41% of 71.5 3. 6% of 250 4. 4.2% of 60

Check whether the given number is a solution of the equation.
(Review Examples 1 and 2, p. 24)

5. $9 - x = 7$; -2 6. $-11 = -4y + 1$; 3 7. $4 - 3w + 5w = 2$; -1

Use the distributive property to rewrite the expression without parentheses. (Review Examples 2 and 3, p. 101)

8. $3(4r + 6)$ 9. $-6(3 - 5z)$ 10. $(-x + 7)(-3)$

Find the terms of the expression. Then simplify the expression by combining like terms. (Review Example 3, p. 80 and Example 5, p. 102)

11. $-2 + 3x - 7$ 12. $4a + 2 - a$ 13. $1 - 3x + 4y + 3x$

STUDENT HELP

► 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.

STUDY STRATEGY

Here's a study strategy!

Learning to Use Formulas

Be sure you know what each variable means in a formula. To study for tests, it is helpful to write a formula on one side of a 3×5 card and a sample problem using that formula on the other side. There is also a helpful Table of Formulas on page 813.