

## PREVIEW

### What's the chapter about?

Chapter 12 is about **probability and statistics**. In Chapter 12 you'll learn

- how to count the number of ways an event can happen.
- how to calculate and use probabilities.
- how to use binomial and normal distributions.

## KEY VOCABULARY

### ► Review

- binomial, p. 256
- mean, p. 445
- standard deviation, p. 446
- factorial, p. 681

### ► New

- permutation, p. 703
- combination, p. 708
- binomial theorem, p. 710
- probability, p. 716
- compound event, p. 724

- complement, p. 726
- independent events, p. 730
- dependent events, p. 732
- binomial distribution, p. 739
- hypothesis testing, p. 741
- normal distribution, p. 746

## PREPARE

### Are you ready for the chapter?

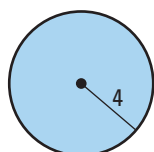
**SKILL REVIEW** Do these exercises to review key skills that you'll apply in this chapter. See the given **reference page** if there is something you don't understand.

Write the following as a decimal and as a percent. (**Skills Review, p. 906**)

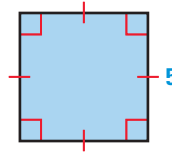
- $\frac{1}{2}$
- $\frac{1}{5}$
- $\frac{3}{20}$
- $\frac{12}{25}$
- $\frac{7}{36}$
- $\frac{15}{32}$

Find the area of the figure. (**Skills Review, p. 914**)

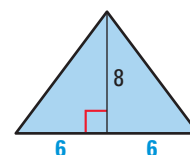
7.



8.



9.



Solve the exponential equation. (**Review Examples 2 and 3, pp. 501 and 502**)

- $10^x = 0.5$
- $(0.5)^x + 3 = 3.75$
- $1 - 9^x = 0.25$

## 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!

### Connect to Your Life

Note real examples from your life that use the mathematics in this chapter. As you read the examples given in the textbook, listen to a teacher's explanation, and do the homework problems, think of problems in your own life that can be solved the same way. This will help you to understand and use the concepts you are learning.