

Study Guide

PREVIEW

What's the chapter about?

Chapter 9 is about **right triangles** and a related branch of mathematics called **trigonometry**. In Chapter 9, you'll learn

- about properties related to general right triangles, similar right triangles, and special right triangles.
- about some applications of right triangles, including *trigonometry*, or triangle measurement, and vectors.

KEY VOCABULARY

► Review

- converse, p. 72
- right triangle, p. 194
- altitude, p. 281
- proportion, p. 459
- geometric mean, p. 466

- similar polygons, p. 473

► New

- Pythagorean triple, p. 536
- special right triangles, p. 551
- trigonometric ratio, p. 558

- angle of elevation, p. 561
- solve a right triangle, p. 567
- magnitude of a vector, p. 573
- direction of a vector, p. 574
- sum of two vectors, p. 575

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.

Exercises 1 and 2 refer to $\triangle JKL$ with $m\angle J = 30^\circ$ and $m\angle K = 60^\circ$.

1. Find $m\angle L$. Classify $\triangle JKL$ as *acute*, *right*, or *obtuse*. (Review pp. 194–197)
2. Sketch $\triangle JKL$. Label its legs, hypotenuse, and altitudes. (Review pp. 195, 281)
3. Draw a vector in a coordinate plane whose component form is $\langle 5, -2 \rangle$. (Review p. 423)
4. Solve the proportion: $\frac{x+3}{5} = \frac{x}{3}$. (Review p. 459)
5. Refer to $\triangle JKL$ in Exercises 1 and 2 above. Sketch a triangle, $\triangle ABC$, that is similar to $\triangle JKL$. Explain how you know the triangles are similar. (Review p. 481)

STUDY
STRATEGY

Here's a study strategy!

What Do You Know?

Make a list of what you already know about right triangles and trigonometry. Make another list of what you expect to learn about these topics. After studying Chapter 9, review these lists as you review the chapter to see what you have learned.