Study Guide

What's the chapter about?

Chapter 11 is about **areas of polygons and circles**. In Chapter 11, you'll learn

- how to find angle measures and areas of polygons.
- how to compare perimeters and areas of similar figures.
- how to find the circumference and area of a circle and to find other measures related to circles.

KEY VOCABULARY

▶ **Review**
- **polygon, p. 322**
- ***n*-gon, p. 322**
- **convex polygon, p. 323**
- **regular polygon, p. 323**
- **similar polygons, p. 473**
- **trigonometric ratio, p. 558**

- **circle, p. 595**
- **center of a circle, p. 595**
- **radius of a circle, p. 595**
- **measure of an arc, p. 603**

▶ **New**
- **apothem of a polygon, p. 670**

- **central angle of a regular polygon, p. 671**
- **circumference, p. 683**
- **arc length, p. 683**
- **sector of a circle, p. 692**
- **probability, p. 699**
- **geometric probability, p. 699**

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.

1. Find the area of a triangle with height 8 in. and base 12 in. **(Review p. 51)**

2. In $\triangle ABC$, $m\angle A = 57°$ and $m\angle C = 79°$. Find the measure of $\angle B$ and the measure of an exterior angle at each vertex. **(Review pp. 196–197)**

3. If $\triangle DEF \sim \triangle XYZ$, $DF = 8$, and $XZ = 12$, find each ratio.

   a. $\dfrac{XY}{DE}$ **b.** $\dfrac{\text{Perimeter of } \triangle DEF}{\text{Perimeter of } \triangle XYZ}$ **(Review pp. 475, 480)**

4. A right triangle has sides of length 20, 21, and 29. Find the measures of the acute angles of the triangle to the nearest tenth. **(Review pp. 567–568)**

Here's a study strategy!

A *concept map* is a diagram that highlights the connections between ideas. Drawing a concept map for a chapter can help you focus on the important ideas and on how they are related.

Draw a Concept Map

circle

circumference $2\pi r$ — area πr^2

arc length — sector