

PREVIEW

What's the chapter about?

Chapter 12 connects **radicals and geometry**. In Chapter 12 you'll learn

- how to solve radical equations and graph radical functions.
- how to apply the Pythagorean theorem.
- how to use trigonometric ratios.
- how to prove theorems by using algebraic properties.

KEY VOCABULARY

Review

- counterexample, p. 66
- similar triangles, p. 140
- perfect square trinomial, p. 619
- extraneous solutions, p. 644

New

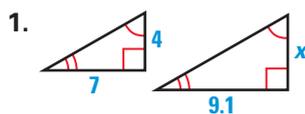
- square-root function, p. 709
- completing the square, p. 730
- Pythagorean theorem, p. 738
- hypothesis, p. 739
- conclusion, p. 739
- converse, p. 739
- trigonometric ratios, p. 752
- postulate, p. 758
- theorem, p. 759
- indirect proof, p. 760

PREPARE

Are you ready for the chapter?

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

In Exercises 1 and 2, the two triangles are similar. Find the length of the side marked x . (Review Example 5, p. 141)



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.

Simplify the expression. (Review Examples 1 and 2, p. 512)

3. $\sqrt{98}$

4. $\sqrt{140}$

5. $\sqrt{\frac{7}{4}}$

6. $\frac{\sqrt{144}}{\sqrt{16}}$

Factor the trinomial. (Review Examples 1–4, pp. 604 and 605)

7. $x^2 - 3x - 18$

8. $x^2 + 2x - 8$

9. $4x^2 + 20x + 25$

STUDY STRATEGY

Here's a study strategy!

Drawing Diagrams

Sometimes it is helpful to include a diagram or another visual when you take notes. Diagrams and tables can also be used to organize related ideas and terms.