

NAME _____

Module 8 Points, Lines, Angles, and Triangles

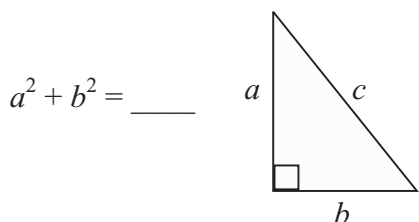
Lesson 7 Right Triangles

Lesson Objectives

- Prove and use the Pythagorean Theorem.
- Use special right triangles to solve real-life problems.

Subtopic 1 The Pythagorean Theorem

In a right triangle, the sum of the squares of the lengths of the _____ is equal to the square of the length of the _____.



1

A 20-foot ladder is placed against a building, so its base rests 12 feet from the base of the building. How high up the building does the ladder reach?

2

Martha hikes from a ranger station eight miles south, then 12 miles west to a camp. To the nearest hundredth of a mile, what is the direct distance between the ranger station and the camp?

3

A 30-foot wire runs from the top of a telephone pole to a point on the ground eight feet from the base of the pole. What is the height of the telephone pole to the nearest foot?

Subtopic 2 **Using the Converse of the Pythagorean Theorem**

If $a^2 + b^2 = c^2$, then the triangle is a _____.

4

The lengths of the sides of a triangle are seven, 24, and 25 inches. Is this a right triangle?