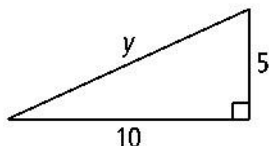


# 8-1 <sub>G</sub>

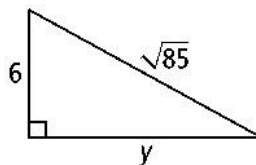
## The Pythagorean Theorem and Its Converse

**Algebra** Find the value of  $y$ . Express in simplest radical form.

1.



2.



The lengths of the sides of a triangle are given. Classify each triangle as *acute*, *right*, or *obtuse*.

7. 3, 8, 10

9. 12, 15, 19

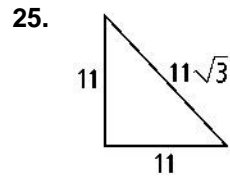
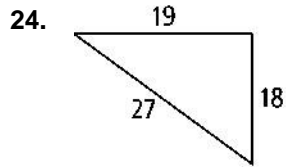
13. A square has side length 10 yd. What is the length of a diagonal of the square? Express in simplest radical form.

14. A square has diagonal length 9 m. What is the side length of the square, to the nearest centimeter?

15. A repairman leans the top of an 8-ft ladder against the top of a stone wall. The base of the ladder is 5.5 ft from the wall. About how tall is the wall? Round to the nearest tenth of a foot.

Name \_\_\_\_\_ Class \_\_\_\_\_

**Is each triangle a right triangle? Explain.**



28. A square is drawn inside a circle so that its vertices touch the circle. If the radius of the circle is 15 cm, what is the perimeter of the square?

29. The International Space Station orbits 350 km above Earth's surface. Earth's radius is about 6370 km. Use the Pythagorean Theorem to find the distance from the space station to Earth's horizon. Round your answer to the nearest 10 kilometers. (Diagram is not to scale.)

