Name _____ Class _____ Date _____

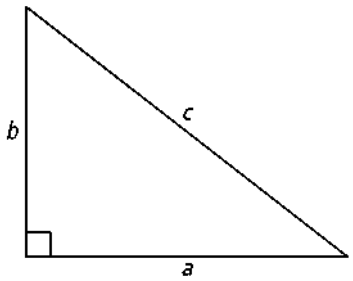
10-1 Practice

Form K

The Pythagorean Theorem

Use the triangle at the right. Find the missing side length. If necessary, round to the nearest tenth.

1. $a = 16$, $b = 12$



2. $a = 15$, $c = 20$

3. $b = 32$, $c = 44$

4. A hiker goes six miles east and then turns south. If the hiker finishes 7.2 miles from the starting point, how far south did the hiker go?

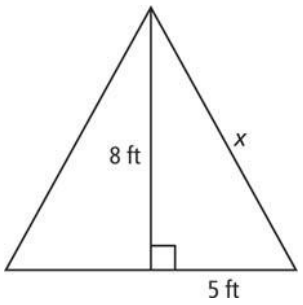
5. A teacher is cutting along the diagonal of a rectangular piece of construction paper for a bulletin board which is 11 inches long and 8.5 inches wide. What will be the length of the cut?

Determine whether the given lengths can be side lengths of a right triangle.

6. 15 m, 20 m, 25 m

7. 22 ft, 24 ft, 30 ft

8. A roofer is gathering information for purchasing supplies for the roof shown at the right. Using the dimensions shown, what is the length *x* of the roof from the top to the lower edge? If necessary, round to the nearest tenth.



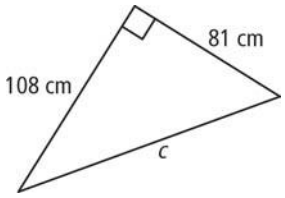
Any set of three positive integers that satisfies the equation $a^2 + b^2 = c^2$ is a *Pythagorean triple*. Determine whether each set of numbers is a Pythagorean triple.

9. 5, 9, 11

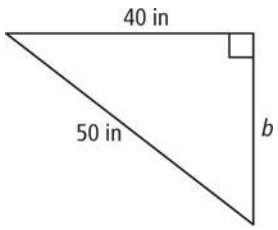
10. $\sqrt{3}, \sqrt{4}, \sqrt{5}$

Find each missing side length.

11.



12.



13. A rectangular box is 9 in. wide, 11 in. tall, and 20 in. long. What is the diameter of the smallest circular opening through which the box will fit? If necessary, round to the nearest tenth of a centimeter.