

Name:

Date:

Period:

Show all your work in your notebook. Make sure draw pictures when necessary.

1. Which of the following could be the lengths of the sides of a right triangle?

[a] 3, 5, 8

[b] 5, 12, 13

[c] 2, 4, 6

[d] 5, 5, 5

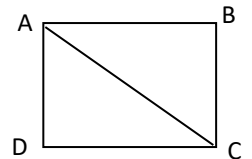
2. The lengths of two legs of a right triangle are 15 and 20. Find the length of the hypotenuse.

3. A man travels from Town A to Town B. He travels 10 miles west and 24 miles north. What is the distance between the two towns? (draw a diagram)

4. Larry attaches a wire from the top of a 26-foot tall flagpole and stakes it to the ground 18 feet from the base of the flagpole. To the nearest tenth of a foot, how many feet is it from the top of the flagpole to the stake in the ground?

5. A gate that is rectangular with dimensions 8 feet long by 15 feet high has a piece of wire tightened across it diagonally in order to strengthen the gate. How long is that diagonal?

6. In the accompanying diagram of rectangle ABCD, $AB = 6$ and $BC = 8$. What is the length of AC?



7. The hypotenuse of a right triangle is 7 and the length of one leg is 4. What is the length of the other leg?

[a] 11

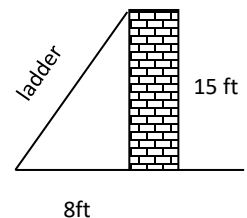
[b] $\sqrt{65}$

[c] 3

[d] $\sqrt{33}$

8. Find the length of the hypotenuse of a triangle whose legs measure 9 and 40.

9. A ladder is leaning against the side of a 15-foot tall house. If the base of the ladder is 8 feet away from the house, how tall is the ladder?



10. A soccer field is a rectangle 90 meters wide and 120 meters long. The coach asks players to run from one corner to the corner diagonally across the field. How far do the players run?