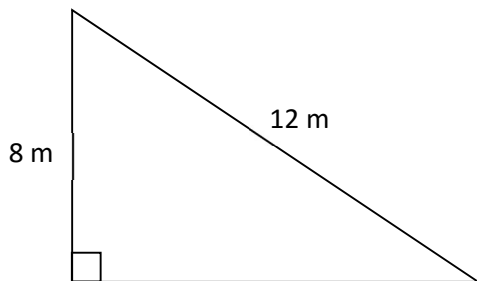**Review for Pythagorean Test:** **Understand and apply the Pythagorean Theorem**

1. 18ft ladder is leaning against a brick wall. The base of the ladder is 8 ft from the base of the building.

Draw and label a triangle to model this situation.	Using your triangle to the left, determine how far up the wall the ladder will reach if it is placed 6ft from the base. Answer to the nearest tenth

2. Sally says that a triangle that has side lengths of 1 unit and 8 units with a hypotenuse of $\sqrt{65}$ units is a right triangle. Is she correct? Explain why or why not.

3. Find the length of the missing leg in the right triangle below. Show your work and label your units. Round your answer to the nearest tenth.
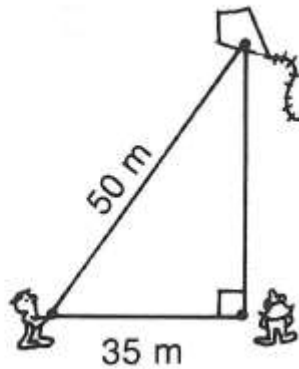
12 m

8 m

The length of the leg is _____

4. A ship leaves port and sails 12 kilometers west and then 19 kilometers north. How far is the ship from port? Draw a picture, then show your work, rounding your answer to the nearest tenth.
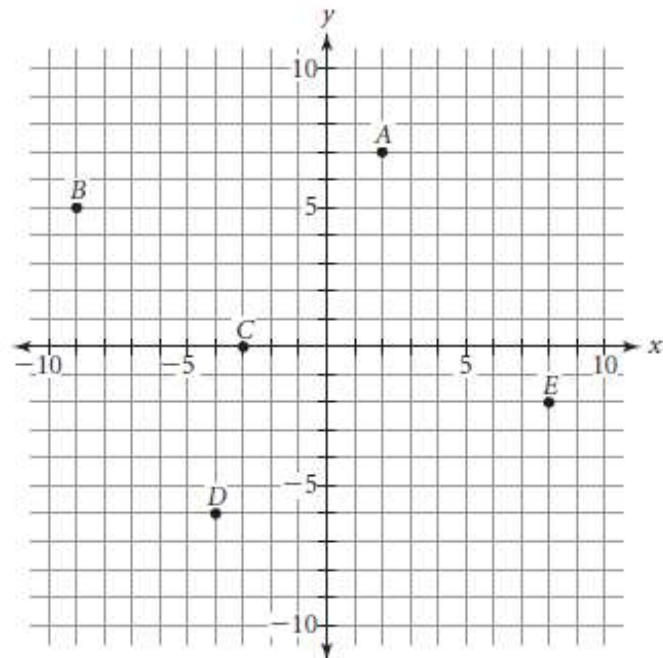
5.

Orgo has let out 50 meters of kite string when he observes that his kite is directly above Zorna. If Orgo is 35 meters from Zorna, how high is the kite?
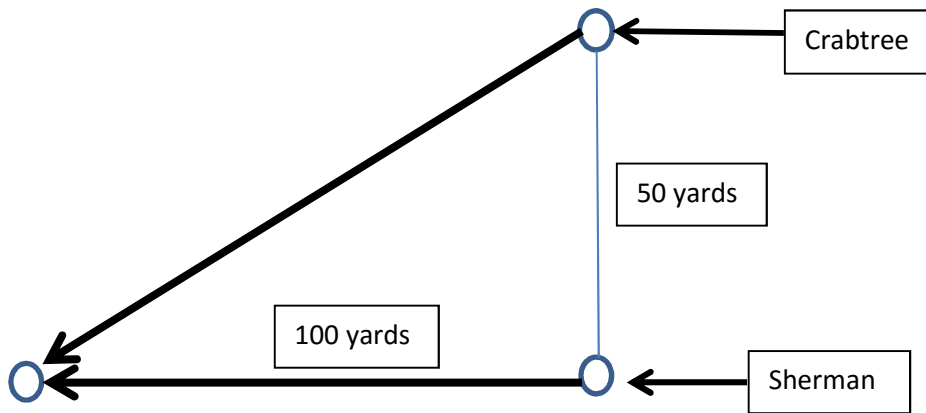

50 m

35 m

6. Use the grid.

a. find the distance from B to C to the nearest tenth.

b. find the distance from D to A to the nearest tenth..

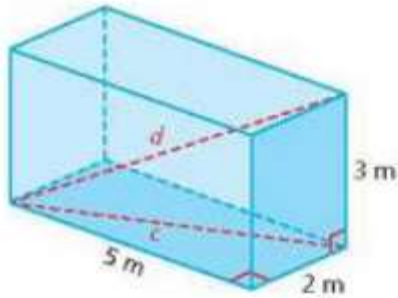7. Use the information to answer the questions below about Crabtree trying to stop Sherman with the ball.

Crabtree

50 yards

100 yards

Sherman

a. How far did Sherman run? _____

b. How far did Crabtree run? _____

c. Who ran further and by how much? _____

8. A ramp is placed across a ditch to a main road 2 ft. above the ditch. If the length of the ramp is 12 ft. Sketch a diagram of the problems and determine how far away the bottom of the ramp is from the road
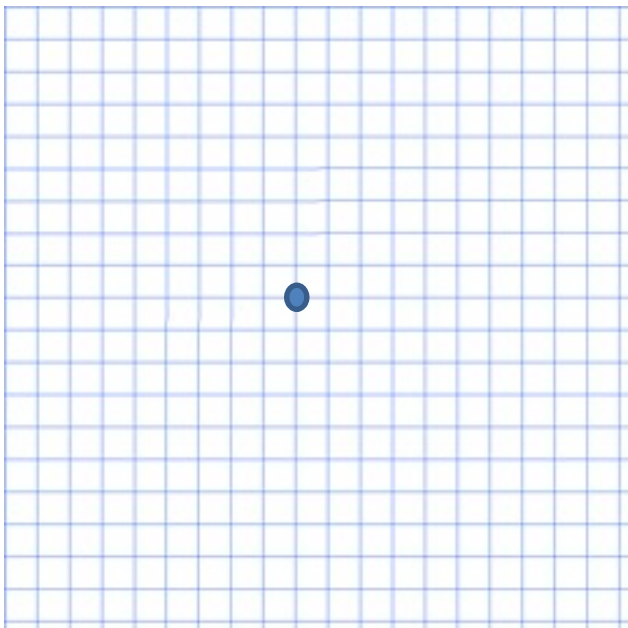
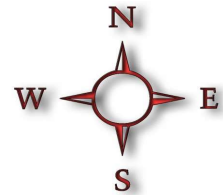Distance from the bottom of the ramp to the road _____

9. What is the shortest distance between (4 , - 5) and (- 3 , - 15)?

10.

Find d, the length of the diagonal of the box.

3 m

5 m

2 m

11. You leave your campground ● and hike south for 3 miles to the base camp. You then turn east and hike for 5 miles. You then turn south again and hike 2.5 miles. Finally to reach the summit of the mountain you must turn west and hike 2 miles. What is the shortest distance back to your camping spot if you hang glide from the summit?

Show your work. (make a map with ONLY 2 points)

N

W —◆— E

S

12. You need to help your friend understand the Pythagorean Theorem. Draw a visual representation of the Pythagorean Theorem that might help your friend picture it and then prove to your friend how the visual proves the Pythagorean Theorem using words and/or numbers.