THE PYTHAGOREAN THEOREM
MORE PRACTICE

1. Determine each unknown length.

a)

16 ft. 7 ft. x

b)

20 cm 12 cm y
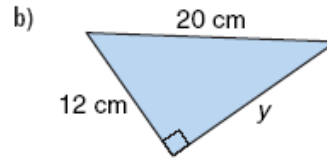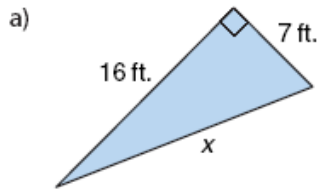
2. Jadie uses an 18 ft. ladder to reach the window of the second floor of her house. She places the base of the ladder 4 ft. 6 in. away from the house to set the ladder at a safe angle. How far up the wall of the house is the second-floor window?

3. Corey purchased a 17″ flat screen for his computer. The height of the screen is 11″. Determine its width. Would the screen fit into a 14″ wide space? Explain.

11″   17″
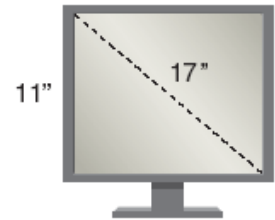
4. A baseball diamond is a square with side length 90 ft. What is the distance between first base and third base? Describe the method you used to solve this problem.

Answers

1. **a)** About 17 ft.   **b)**   16 cm
2. About 17 ft.
3. The screen is about 13″ wide. It would fit into a 14″ wide space if the case around the screen adds less than one inch to its width.
4.

90 ft.   90 ft.
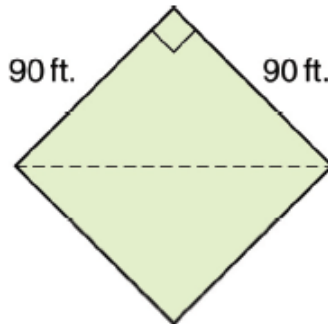
The distance between the first base and third base is a diagonal of the square.
It is the hypotenuse of the right triangle formed by the first base, third base, and either second base or home plate. The sides of the square are the legs.
$$\sqrt{90^2 + 90^2} \doteq 127$$
So, the distance is about 127 ft.