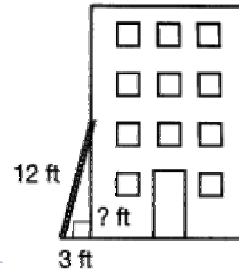
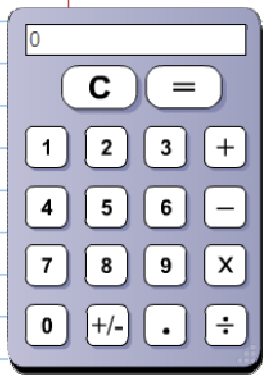


Objective: TSWBAT solve word problems using the Pythagorean Theorem

A 12-foot ladder is leaning against a building. The base of the ladder is 3 feet from the base of the building. How far up the side of the building does the ladder reach? Round to the nearest tenth.



$$\begin{aligned} 3^2 + b^2 &= 12^2 \\ 9 + b^2 &= 144 \\ \underline{-9} \quad \quad \underline{-9} \\ \sqrt{b^2} &= \sqrt{135} \\ b &= 11.6 \end{aligned}$$

11. A community built a softball field with 60 feet from one base to the next. To the nearest tenth, how far is it from first base across to third base?

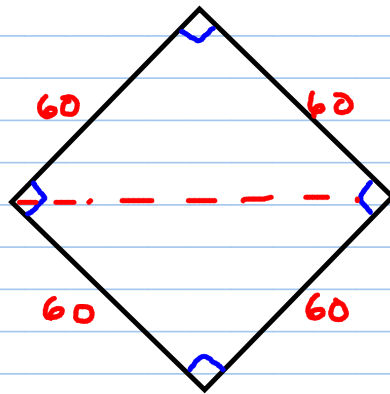
- A 120 ft
- B 84.9 ft
- C 84.7 ft
- D 15.5 ft

$$a^2 + b^2 = c^2$$
$$60^2 + 60^2 = c^2$$

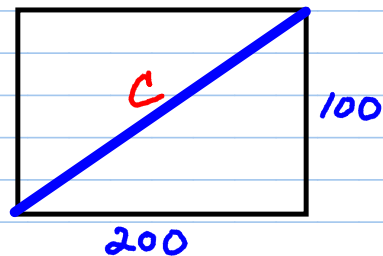
$$3600 + 3600 = c^2$$

$$\sqrt{7200} = \sqrt{c^2}$$

$$c = 84.9$$



2. A rectangular lot measures 100 feet by 200 feet. Mr. James wants to make a diagonal path across the lot and make vegetable gardens on both sides of the path. What is the length of the path? Round to the nearest tenth.



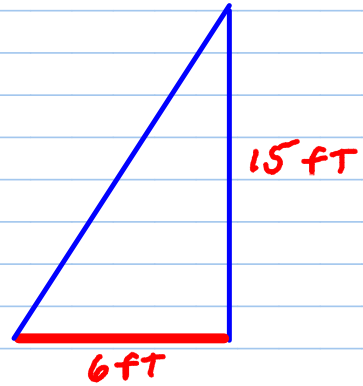
$$100^2 + 200^2 = c^2$$

$$10,000 + 40,000 = c^2$$

$$\sqrt{50,000} = c$$

$$c = 223.6$$

An antenna is 15 feet high. A wire connects the top of the antenna and a bolt in the ground. The bolt is 6 feet from the base of the antenna. What is the length of the wire, rounded to the nearest tenth?



$$a^2 + b^2 = c^2$$

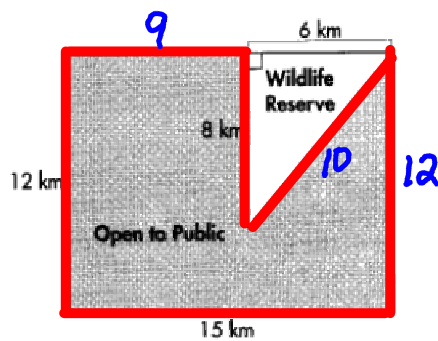
$$6^2 + 15^2 = c^2$$

$$36 + 225 = c^2$$

$$\sqrt{261} = \sqrt{c^2}$$

$$c = 16.2$$

- 37 A triangular section of a rectangular public park was fenced off for use as a wildlife reserve. What is the new perimeter of the part of the park that is still open to the public?

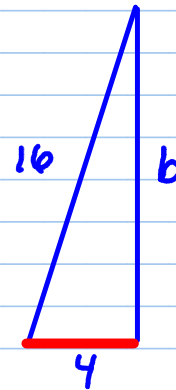


- A. 47 km
- B. 54 km
- C. 66 km
- D. 156 km

Perimeter is the Sum of the highlighted segments.

$$P = 12 + 15 + 12 + 10 + 8 + 9 = 66 \text{ km}$$

A 16-foot ladder is leaning against a building. The base of the ladder is 4 feet from the base of the building. How far up the side of the building does the ladder reach? Round to the nearest tenth.



$$4^2 + b^2 = 16^2$$
$$16 + b^2 = 256$$
$$\begin{array}{r} -16 \\ \hline 0 \end{array} \qquad \begin{array}{r} -16 \\ \hline 0 \end{array}$$
$$b = 240$$