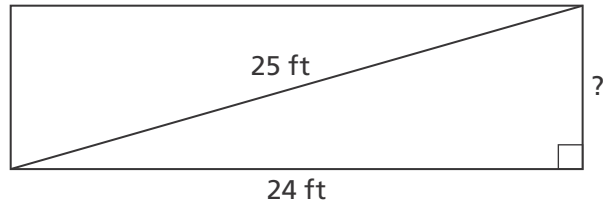


What is the width of the garden shown in the diagram at the right?



Use the Pythagorean Theorem. Substitute  $b = 24$  and  $c = 25$ .

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

$$a^2 + 24^2 = 25^2$$

$$a^2 + 576 = 625$$

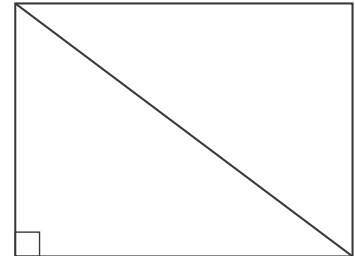
$$a^2 = 49$$

$$a = 7$$

The width of the garden is 7 feet.

Romy walks 16 yards, the length of a rectangular field. He then turns right and walks 12 yards, the width of the field. How far does Romy walk back to his starting point if he walks along the field's diagonal?

1. Label the diagram with the information given above.
2. Use the Pythagorean Theorem to find how far Romy walks along the field's diagonal.



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

$$\square^2 + \square^2 = \square^2$$

$$\square + \square = \square^2$$

$$\square = \square^2$$

$$\sqrt{\square} = \square$$

$$\square = \square$$

Romy walks 20 yards.

### On the Back!

3. A rectangular hallway rug has a width of 9 feet, and the diagonal measures 41 feet. What is the rug's length?