Pythagorean Theorem Word Problems- Guided Lesson Explanation

Explanation#1
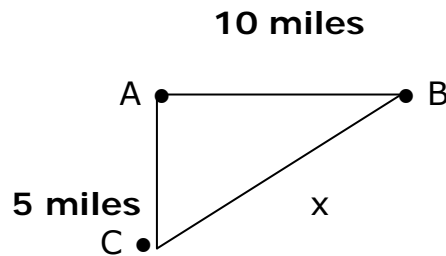
This is just a straight application of the theorem. We have the hypotenuse and one leg, so it would proceed as:

$$C^2 = A^2 + B^2$$
$$17^2 = 12^2 + B^2$$
$$B^2 = 17^2 - 12^2$$
$$B^2 = 289 - 144$$
$$B = \sqrt{145}$$
$$B = 12.04 \text{ cm}$$

Explanation#2

Let's draw this up first.

$$h^2 = p^2 + b^2$$
$$h^2 = 5^2 + 10^2$$
$$h^2 = 25 + 100$$
$$h = \sqrt{125}$$
$$h = 11.18 \text{ miles}$$

10 miles

A •———————————• B

5 miles   x

C •

Explanation#3

$$C^2 = A^2 + B^2$$
$$C^2 = 25^2 + 15^2$$
$$C^2 = 625 + 225$$
$$C^2 = 850$$
$$C = \sqrt{850}$$
$$C = 29.15 \text{ miles}$$

25 miles

Home •———————————• 1

15 miles

C

• 2