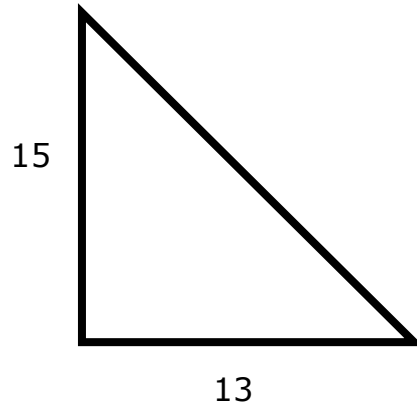# Applying the Pythagorean Theorem Lesson

Find the length of the missing side in this right triangle.

15

13

The side that is missing is defined as the hypotenuse. We can tell this because it is directly opposite the right angle.

The Pythagorean Theorem tells us $leg^2 + leg^2 = hypotenuse^2$.

Applying this to our triangle: $15^2 + 13^2 = hypotenuse^2$

We will take the math further:

$225 + 169 = hypotenuse^2$

$394 = hypotenuse^2$

$\sqrt{394} = \sqrt{hypotenuse^2}$

$19.85 = hypotenuse$