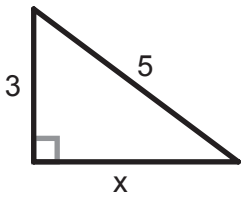
math Antics
Exercises

Name: _____

Date: _____

The Pythagorean Theorem

1 Find the length of the unknown side 'x'.



$3^2 + x^2 = 5^2$

$9 + x^2 = 25$

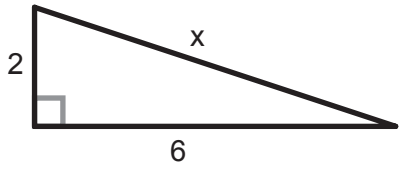
$-9 \quad -9$

$x^2 = 16$

$\sqrt{x^2} = \sqrt{16}$

$x = 4$

2 Find the length of the unknown side 'x'.



$2^2 + 6^2 = x^2$

$4 + 36 = x^2$

$40 = x^2$

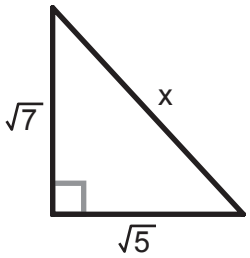
$\sqrt{x^2} = \sqrt{40}$

$x = \sqrt{40}$

or $2\sqrt{10}$

or 6.32...

3 Find the length of the unknown side 'x'.



$\sqrt{7}^2 + \sqrt{5}^2 = x^2$

$7 + 5 = x^2$

$12 = x^2$

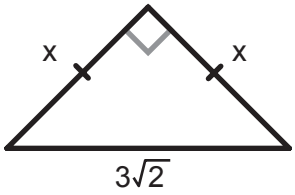
$\sqrt{x^2} = \sqrt{12}$

$x = \sqrt{12}$

or $2\sqrt{3}$

or 3.46...

4 Find the length of the unknown side 'x'.



$x^2 + x^2 = (3\sqrt{2})^2$

$2x^2 = (9 \cdot 2)$

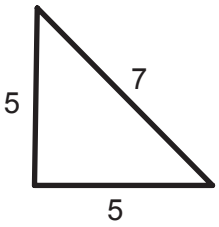
$\frac{2x^2}{2} = \frac{18}{2}$

$x^2 = 9$

$\sqrt{x^2} = \sqrt{9}$

$x = 3$

5 Is this a RIGHT triangle?



Check: $5^2 + 5^2 \stackrel{?}{=} 7^2$

$25 + 25 \stackrel{?}{=} 49$

$50 \neq 49$

No

6 If the longest side of a triangle is 10 meters, and the other two sides are 6 and 8 meters long, is it a RIGHT triangle?

Check: $6^2 + 8^2 \stackrel{?}{=} 10^2$

$36 + 64 \stackrel{?}{=} 100$

$100 = 100$

Yes

See Video for step-by-step solutions to each problem.