Pythagorean Theorem

"In any right triangle, the square of the length of the hypotenuse is equal to the sum of the squares of the lengths of the other two sides."

The side that is opposite the right angle in a right triangle. = hypotenuse.
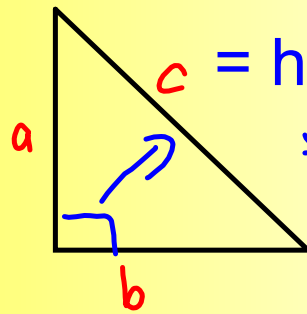
This relationship can be stated as:
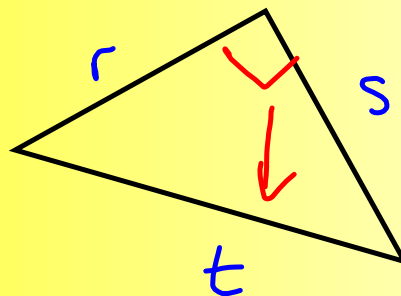
$$c^2 = a^2 + b^2$$

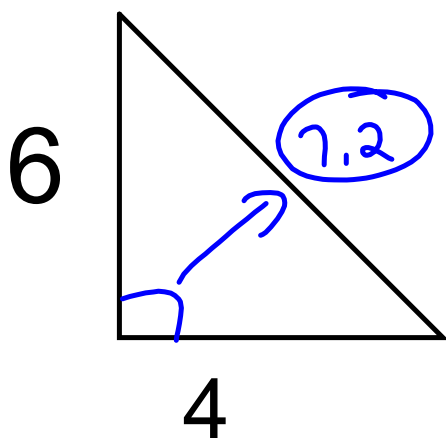hypotenuse   side   side

a   b   c = hypotenuse.

* will always be the longest side *

$t^2 = r^2 + s^2$

r   s   t

$t^2 = s^2 + r^2$

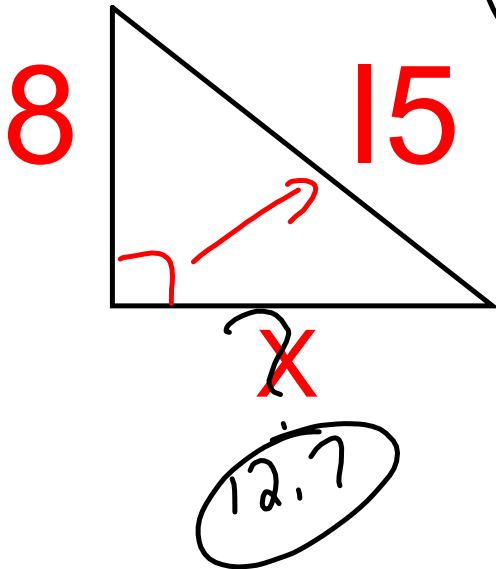# Find the length of the hypotenuse

6

4

(7.2)

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

$$c^2 = 6^2 + 4^2$$

$$c^2 = 36 + 16$$

$$\sqrt{c^2} = \sqrt{52}$$

$$c = 7.2$$

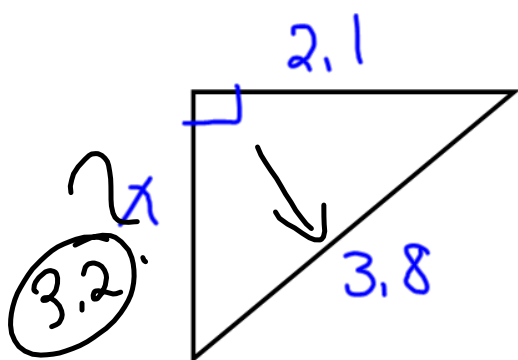Solve for a side...

hypotenuse

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

$15^2 = a^2 + 8^2$

$225 = a^2 + 64$

$\sqrt{a^2} = \sqrt{161}$

$a = 12.7 \leftarrow$ 12.688

8   15

x

12.7

2.1

$$2x$$

$$\boxed{3.2}$$

3.8

$$7 = \_ + 4$$

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

$$3.8^2 = 2.1^2 + b^2$$

$$14.44 = 4.41 + b^2$$

$$\sqrt{b^2} = \sqrt{0.03}$$

$$b = 3.2 \quad \boxed{3.16}$$

1.   Page 19

13 $\rightarrow$ sketch

2.   Worksheet [Sketch all Triangles!!!]
1, 3, 4, 5, 6, 7, 8 [a]

DO NOT MARK
          SHEET