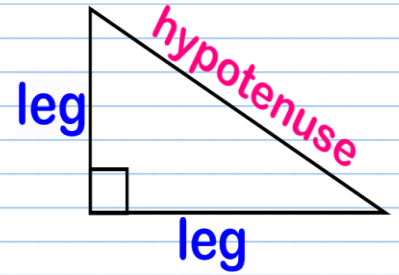
Pythagorean Theorem pg. 63



The legs are connected at the right angle.

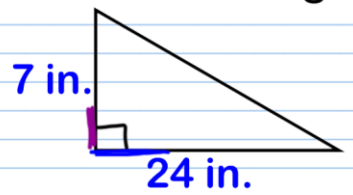
The hypotenuse is across from the right angle and is the longest side.

Pythagorean Theorem:

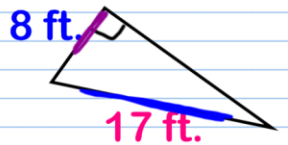
$$a^2 + b^2 = c^2$$

leg leg hypotenuse

Find the missing side length:



$a^2 + b^2 = c^2$
$7^2 + 24^2 = c^2$
$49 + 576 = c^2$
$625 = c^2$
$\sqrt{625} = c$
$25 = c$



$a^2 + b^2 = c^2$
$8^2 + b^2 = 17^2$
$64 + b^2 = 289$
$-64 \quad -64$
$b^2 = 225$
$b = \sqrt{225}$
$b = 15$

a = 5, b = 12, c = 13

$a^2 + b^2 = c^2$
$5^2 + 12^2 = c^2$
$25 + 144 = c^2$
$169 = c^2$
$\sqrt{169} = c$
$13 = c$

a = 9, b = _____, c = 12

$a^2 + b^2 = c^2$
$9^2 + b^2 = 12^2$
$81 + b^2 = 144$
$-81 \quad -81$
$b^2 = 63$
$b = \sqrt{63}$