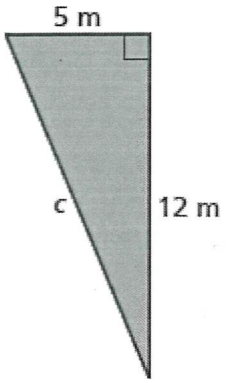
Pythagorean Theorem Notes
In Class Notes

$a^2 + b^2 = c^2$
LEGS, HYPOTENUSE

Name: 7th

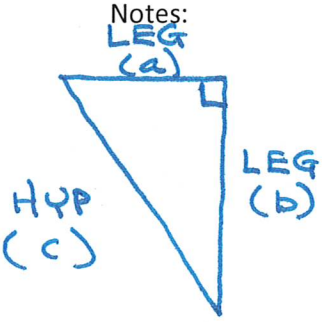
Finding the length of a hypotenuse

Ex:) Find the length of the hypotenuse of the triangle.

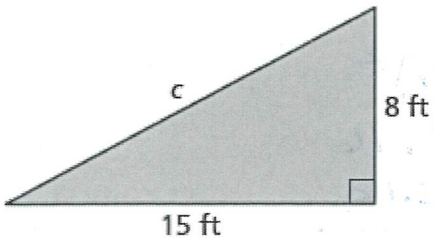


$a^2 + b^2 = c^2$
$(5)^2 + (12)^2 = c^2$
$25 + 144 = c^2$
$\sqrt{169} = \sqrt{c^2}$
$13 = c$
$\boxed{c = 13\text{ m}}$

Notes:



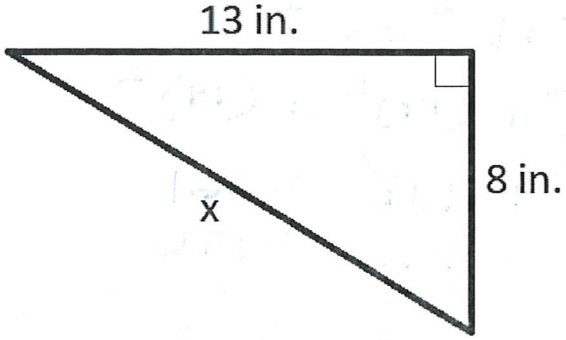
OYO:) Find the length of the hypotenuse of the triangle.



$a^2 + b^2 = c^2$
$(15)^2 + (8)^2 = c^2$
$225 + 64 = c^2$
$\sqrt{289} = \sqrt{c^2}$
$17 = c$
$\boxed{c = 17\text{ ft}}$

Notes:

Ex:) Determine the length of the unknown side of the triangle.
Round to the nearest tenth of an inch.



$a^2 + b^2 = c^2$
$(8)^2 + (13)^2 = (x)^2$
$64 + 169 = x^2$
$\sqrt{233} = \sqrt{x^2}$
$15.3 \approx x$
$\boxed{x \approx 15.3\text{ in.}}$

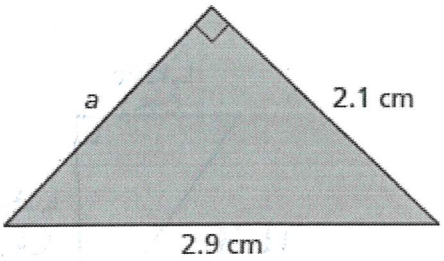
WHEN ROUNDING → ≈ APPROXIMATELY EQUAL TO

Notes:

Finding the length of a leg

Ex:) Find the missing length of the triangle.

Notes:



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

$a^2 + (2.1)^2 = (2.9)^2$

$a^2 + 4.41 = 8.41$

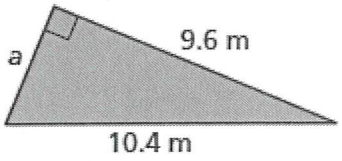
$-4.41 \quad -4.41$

$\sqrt{a^2} = \sqrt{4}$

$a = 2 \text{ cm}$

OYO:) Find the missing length of the triangle.

Notes:



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

$a^2 + (9.6)^2 = (10.4)^2$

$a^2 + 92.16 = 108.16$

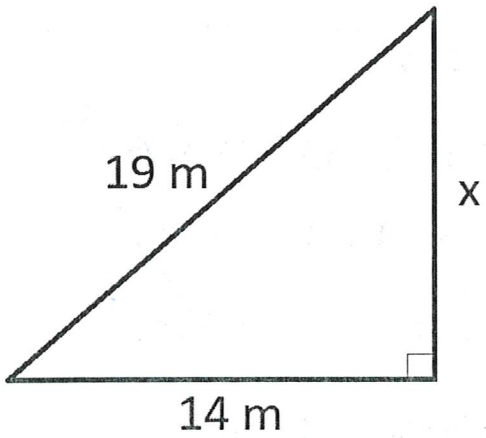
$-92.16 \quad -92.16$

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

$a = 4 \text{ m}$

OYO:) Determine the length of the unknown side of the triangle.
Round to the nearest tenth of a meter.

Notes:



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

$(x)^2 + (14)^2 = (19)^2$

$x^2 + 196 = 361$

$-196 \quad -196$

$\sqrt{x^2} = \sqrt{165}$

$x \approx 12.8 \text{ m}$