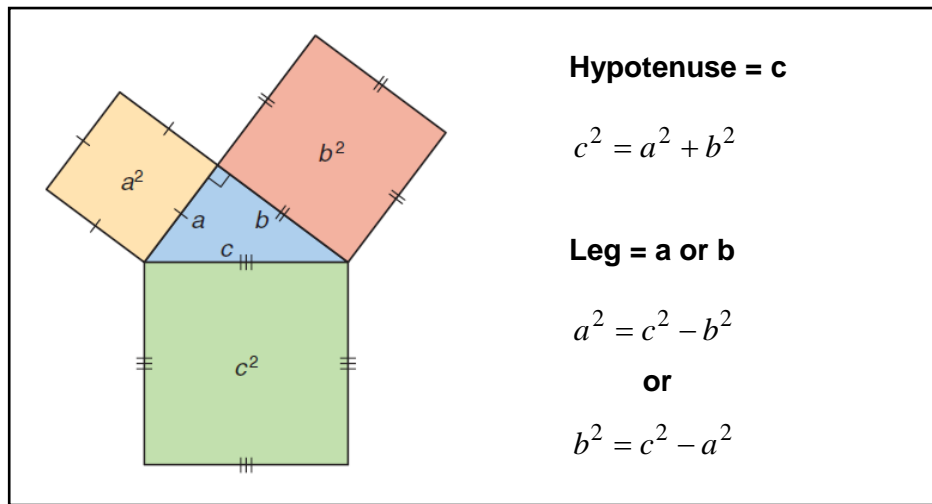


The Pythagorean Theorem for Right TrianglesHypotenuse = c

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

Leg = a or b

$$a^2 = c^2 - b^2$$

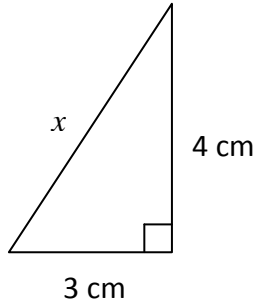
or

$$b^2 = c^2 - a^2$$

1. Determine the missing side length of each given right triangle.

***Always identify the hypotenuse first!**

(a)

Hypotenuse = x

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

$$x^2 = 3^2 + 4^2$$

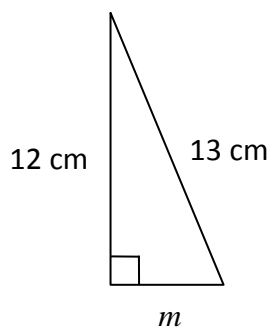
$$x^2 = 9 + 16$$

$$x^2 = 25$$

$$\sqrt{x^2} = \sqrt{25}$$

$$x = 5 \text{ cm}$$

(b)



Hypotenuse = 13 cm

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

$$13^2 = 12^2 + m^2$$

$$13^2 - 12^2 = m^2$$

$$169 - 144 = m^2$$

$$25 = m^2$$

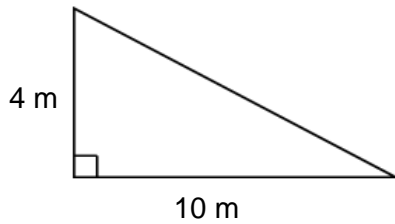
$$\sqrt{25} = \sqrt{m^2}$$

$$5 \text{ cm} = m$$

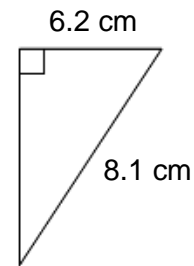
2. Determine the missing side length of each given triangle.

Note: Hypotenuse, c , is always the longest side opposite the right angle.

(a)



(b)

**3. Determine whether the given side measures could form a right triangle.**

(a) 8, 20, 22

Does $22^2 = 8^2 + 20^2$? Lets check!

$$22^2 = 484$$

$$8^2 + 20^2 = 464$$

$$484 \neq 464$$

Side measures 8, 20, 22 cannot form a right triangle.

(b) 12, 16, 20

(c) 2, 3, 4

(d) 2, 8, 8