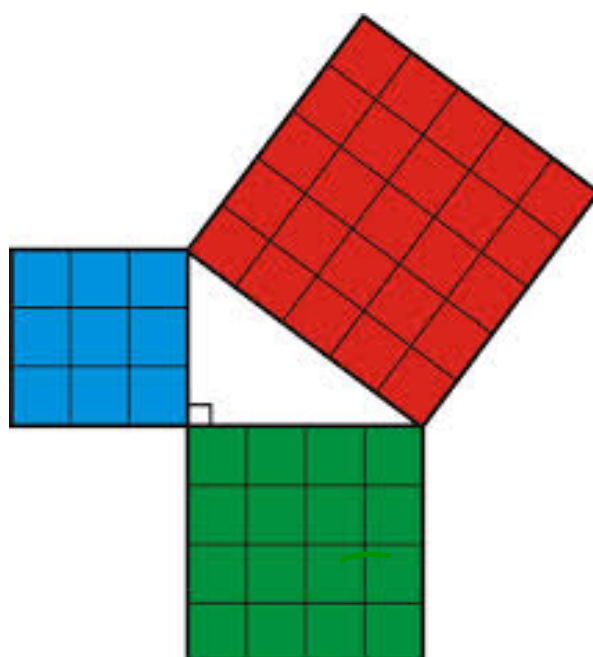


## Right Angle Triangles and the Pythagorean Theorem

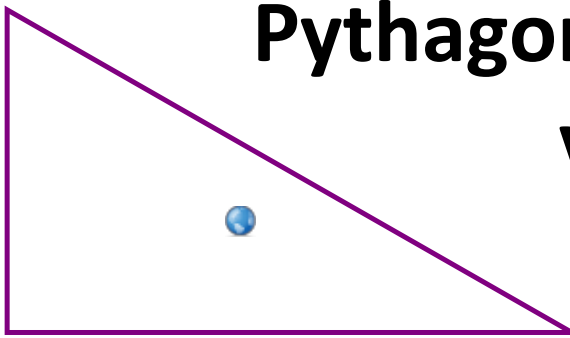
### **Learning Goal:**

**I can use Pythagorean theorem to calculate the unknown side  
of a right angle triangle.**

**WARM UP: What do you notice? wonder?**

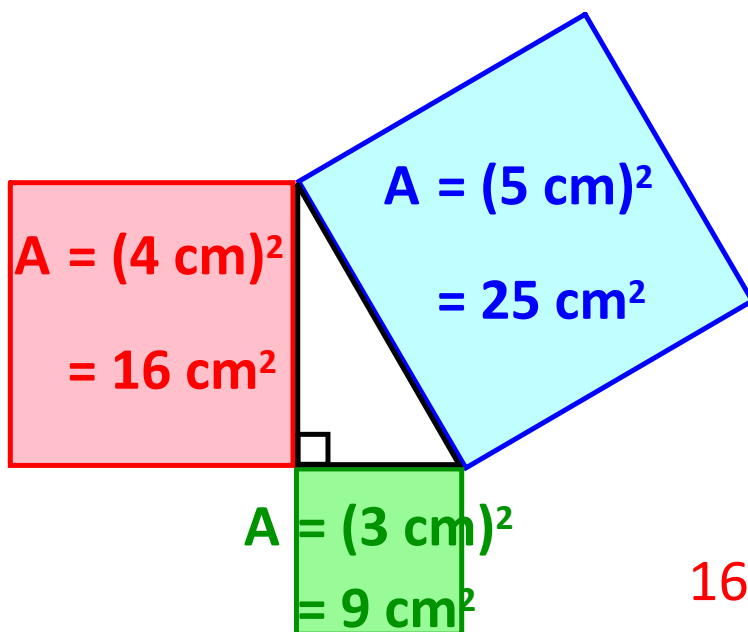


**What do you notice? wonder?**



# **Pythagorean Theorem Video**

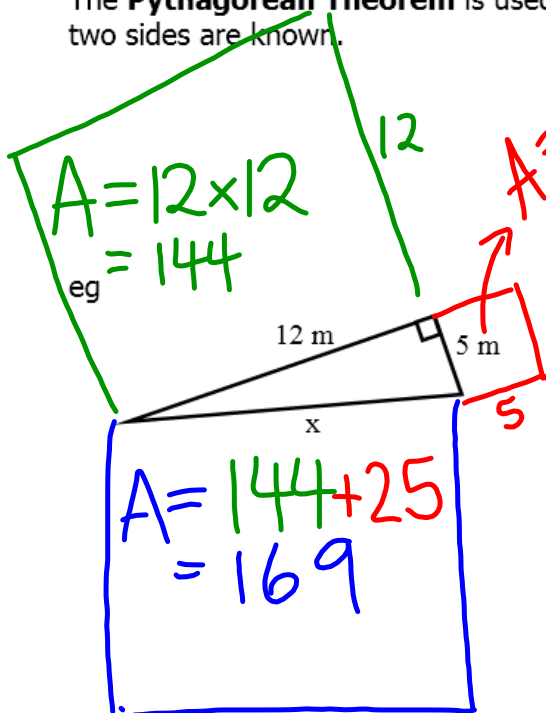
What do you notice? wonder?



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

$$16 \text{ cm}^2 + 9 \text{ cm}^2 = 25 \text{ cm}^2$$

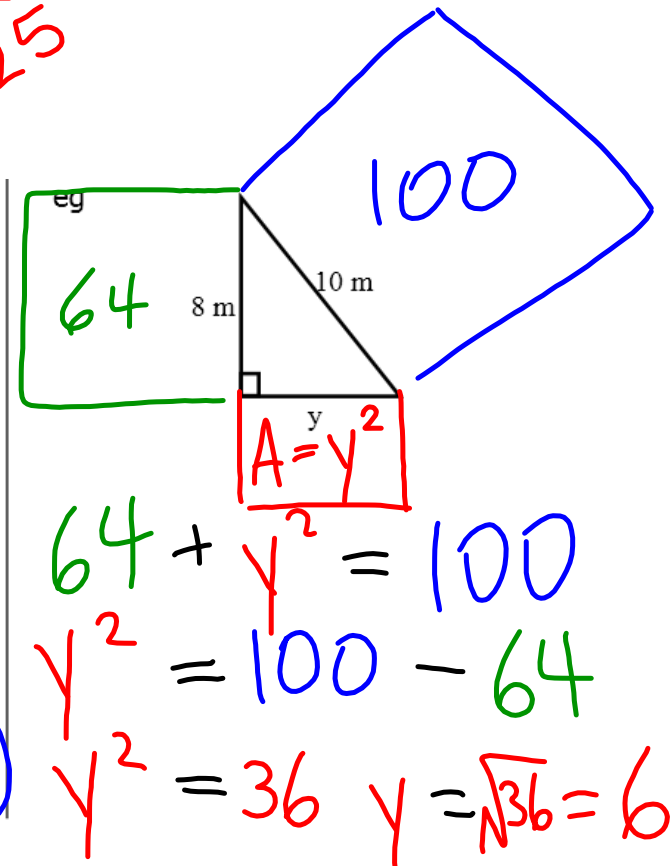
The **Pythagorean Theorem** is used to find an unknown side of a right-triangle if the other two sides are known.



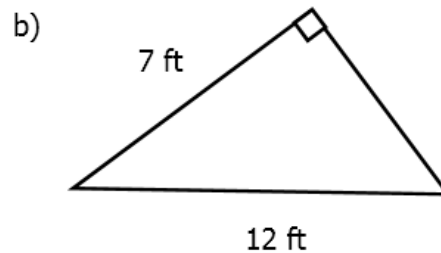
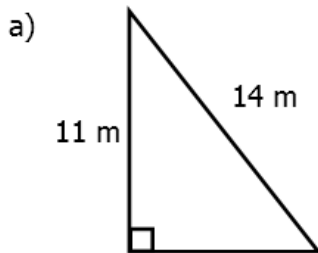
$$169 = x^2$$

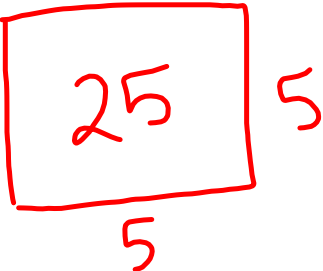
$$\sqrt{169} = 13$$

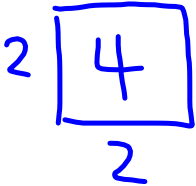
So,  
 $x = 13 \text{ m}$

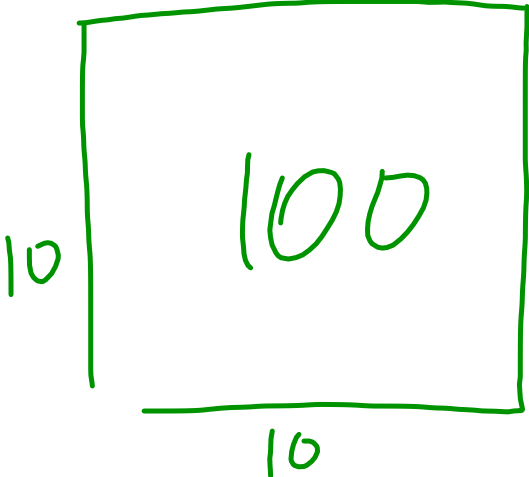


1. Find the unknown side lengths. Round to one decimal place. If you get a side that is longer than the hypotenuse re-work your solution.




$$5^2 = 25$$
$$\sqrt{25} = 5$$


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


$$10^2 = 100$$
$$\sqrt{100} = 10$$