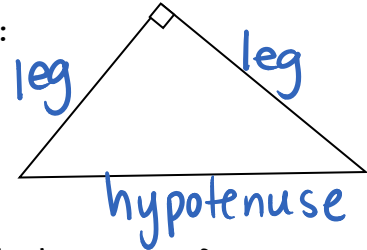


PYTHAGOREAN THEOREM NOTES

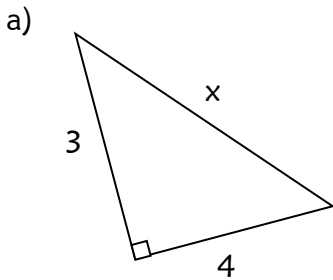
1. Label the legs and hypotenuse on the following right triangles:



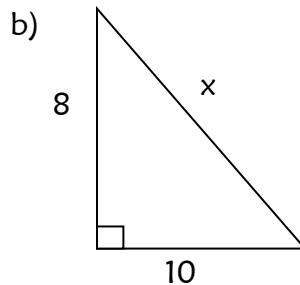
2. If the side lengths of a right triangle are 7, 24, & 25 which is the hypotenuse?

25

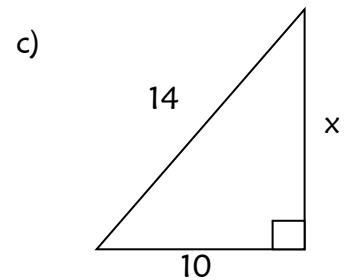
3. Find the length of the missing side.



$$x = 5$$



$$\begin{aligned} 8^2 + 10^2 &= x^2 \\ 64 + 100 &= x^2 \\ 164 &= x^2 \\ 2\sqrt{41} &= x \end{aligned}$$



$$\begin{aligned} 10^2 + x^2 &= 14^2 \\ 100 + x^2 &= 196 \\ x^2 &= 96 \\ x &= 4\sqrt{6} \end{aligned}$$

Recall: If a triangle has side lengths a , b , and c such that $a^2 + b^2 = c^2$ then the triangle is a right triangle.

Determine whether the given lengths are sides of a right triangle.

4) 10, 24, 26

$$\begin{aligned} 10^2 + 24^2 &= 26^2 \\ 100 + 576 &= 676 \\ 676 &= 676 \checkmark \\ \text{yes!} \end{aligned}$$

5) 2, 2, 4

$$\begin{aligned} 2^2 + 2^2 &= 4^2 \\ 4 + 4 &= 16 \\ 8 &\neq 16 \\ \text{NO!} \end{aligned}$$