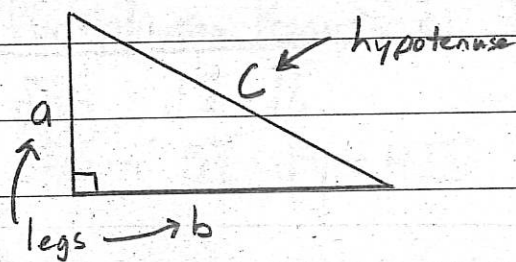
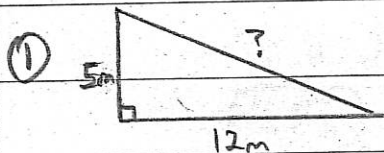


The Pythagorean Theorem



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

Find the missing side length.

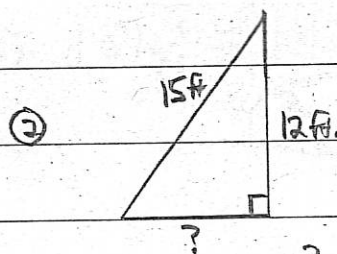


$$c^2 = a^2 + b^2$$

$$c^2 = 5^2 + 12^2$$

$$\sqrt{c^2} = \sqrt{169}$$

$$c = 13m$$



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

$$15^2 = a^2 + 12^2$$

$$225 = a^2 + 144$$

$$\begin{array}{r} -144 \\ \hline 225 \\ -144 \\ \hline 81 \end{array} = a^2$$

$$9ft = a$$

The Converse of the Pythagorean Theorem

If $c^2 = a^2 + b^2$, then the triangle is a right triangle.

Determine if the side lengths result in a right triangle.

③ 4, 8, 10

$$10^2 \stackrel{?}{=} 4^2 + 8^2$$

$$100 \stackrel{?}{=} 16 + 64$$

$$100 \neq 80 \text{ No}$$

④ 10, 24, 26

$$26^2 \stackrel{?}{=} 10^2 + 24^2$$

$$676 \stackrel{?}{=} 100 + 576$$

$$676 = 676 \text{ Yes, it is a right triangle}$$