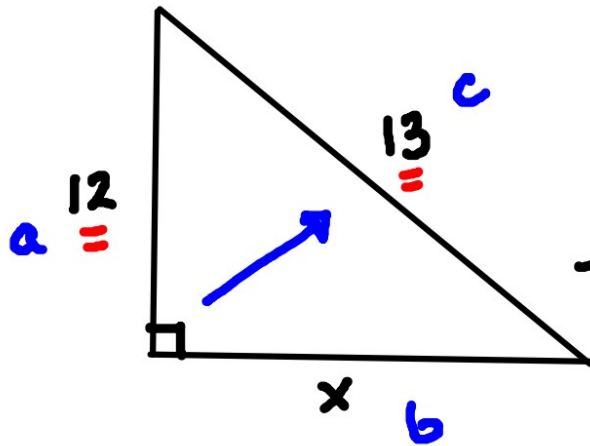


DRILL



Solve for x:

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

$$12^2 + x^2 = 13^2$$

$$\begin{array}{r} 144 + x^2 = 169 \\ -144 \quad \quad -144 \\ \hline \end{array}$$

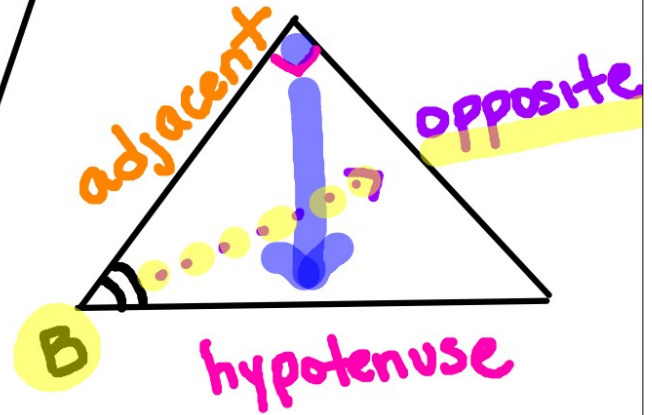
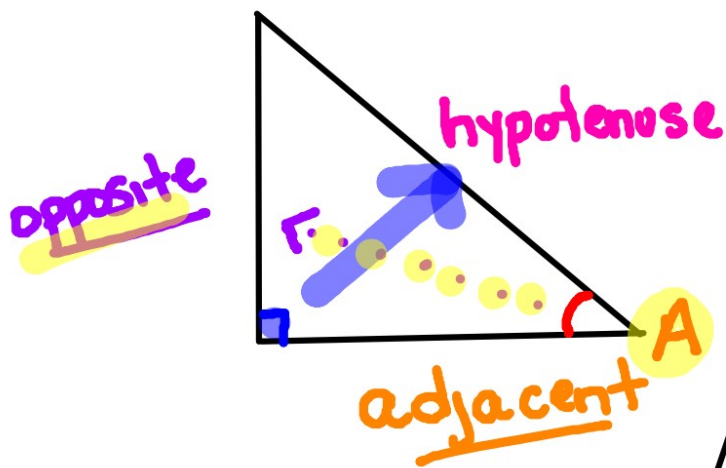
$$\sqrt{x^2} = \sqrt{25}$$

$$\boxed{x = 5}$$

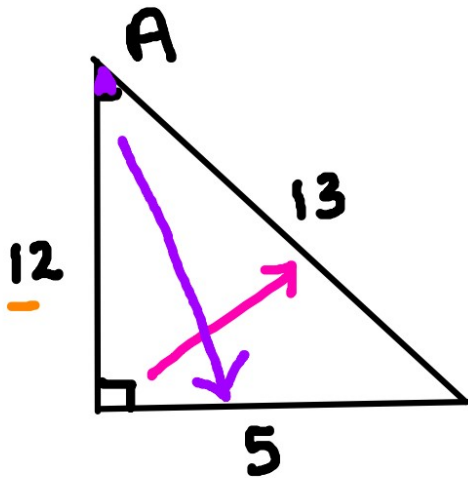
Right Triangle Trig

α = alpha

θ = theta



Ex:



The hypotenuse is 13

The opposite is 5

The adjacent is 12

TRIG RATIOS

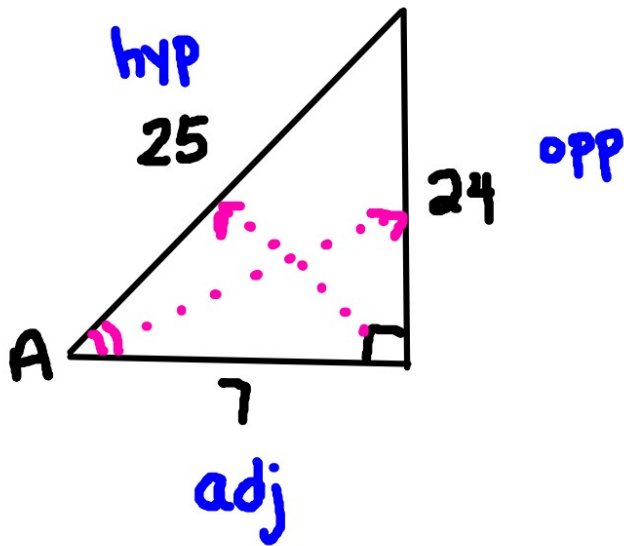
SOHCAHTOA

$\text{Sine } A \Rightarrow \sin A = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{O}{H}$

$\text{Cosine } A \Rightarrow \cos A = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{A}{H}$

$\text{Tangent } A \Rightarrow \tan A = \frac{\text{opposite}}{\text{adjacent}} = \frac{O}{A}$

Example:



Find each ratio:

$$\sin A = \frac{24}{25} = .96$$

$$\cos A = \frac{7}{25}$$

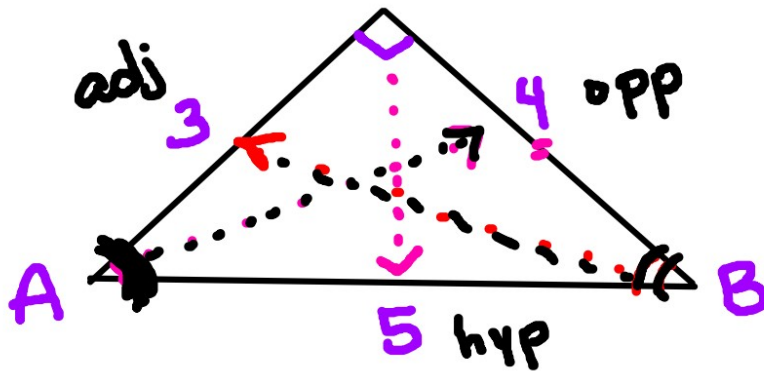
$$\tan A = \frac{24}{7}$$

SOH

CAH

TOA

SOH CAH TOA



$$\sin A = \frac{4}{5}$$

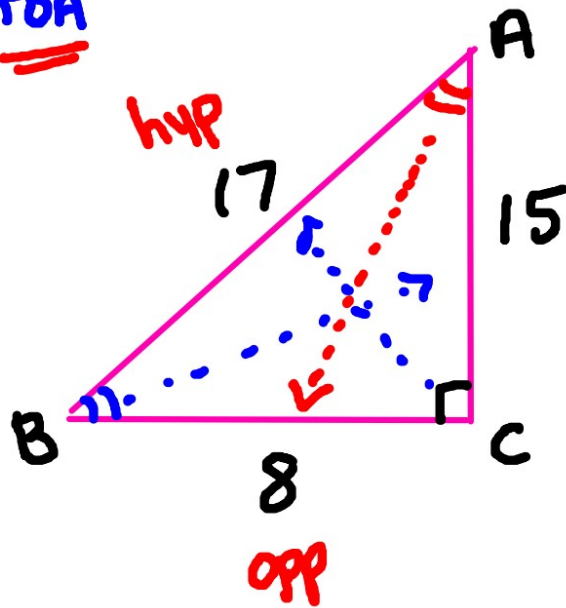
$$\tan B = \frac{3}{4}$$

$$\tan A = \frac{4}{3}$$

$$\sin B = \frac{3}{5}$$

$$\cos A = \frac{3}{5}$$

SOH CAH TOA



$$\sin B = \frac{\text{opp}}{\text{hyp}}$$

$$\tan A = \frac{\text{opp}}{\text{adj}}$$

$$\sin B = \frac{15}{17}$$

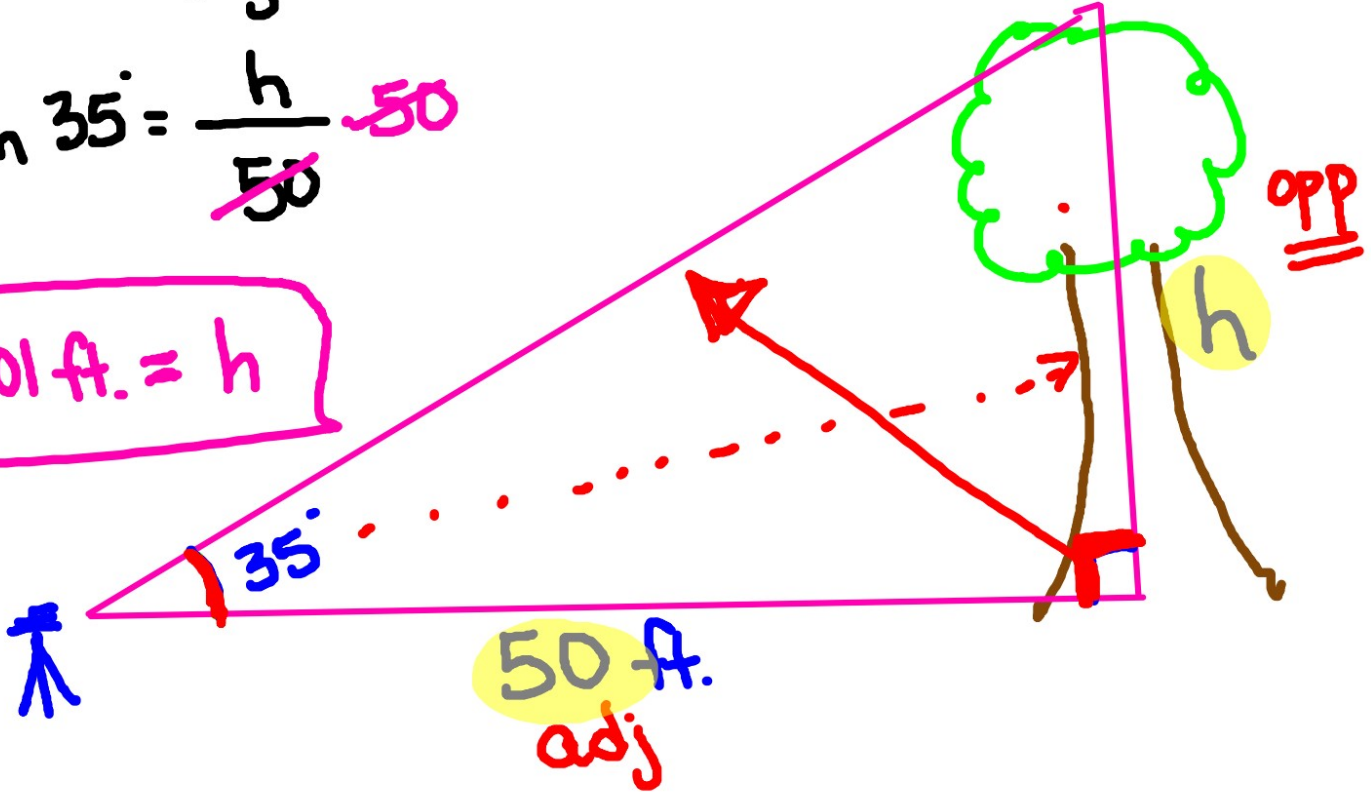
$$\tan A = \frac{8}{15}$$

TOA

$$\tan A = \frac{\text{opp}}{\text{adj}}$$

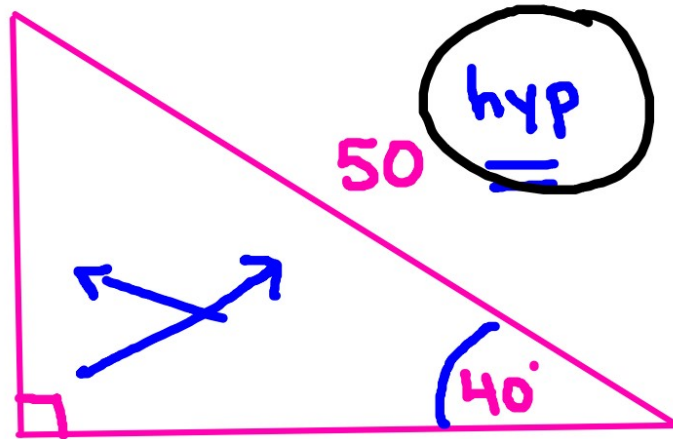
$$50 \tan 35^\circ = \frac{h}{50}$$

35.01 ft. = h



Solve for x:

$$\cos A = \frac{\text{adj}}{\text{hyp}}$$



adj

$$50 \cdot \cos 40^\circ = \frac{x}{50} \cdot 50$$

$$x \approx 38.3$$