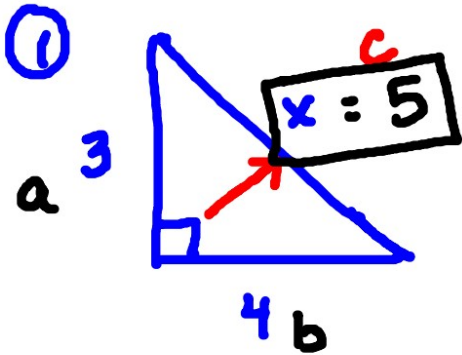
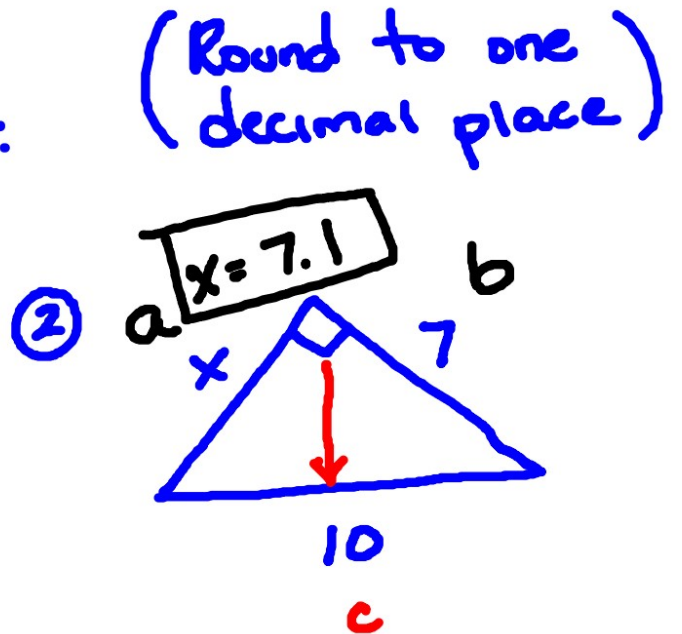


$$a^2 + b^2 = c^2 \quad \text{Pythagorean Hyp.} \quad \text{DRILL}$$

Find x in each:



$$\begin{aligned} 3^2 + 4^2 &= c^2 \\ 9 + 16 &= c^2 \\ \sqrt{25} &= \sqrt{c^2} \\ c &= 5 \end{aligned}$$

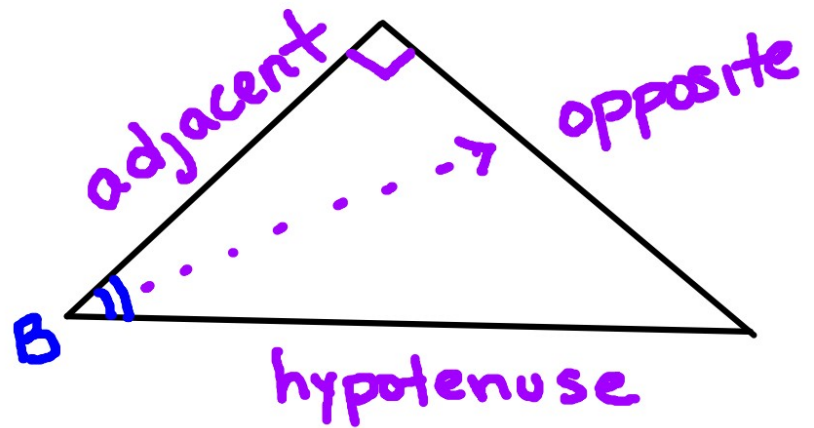
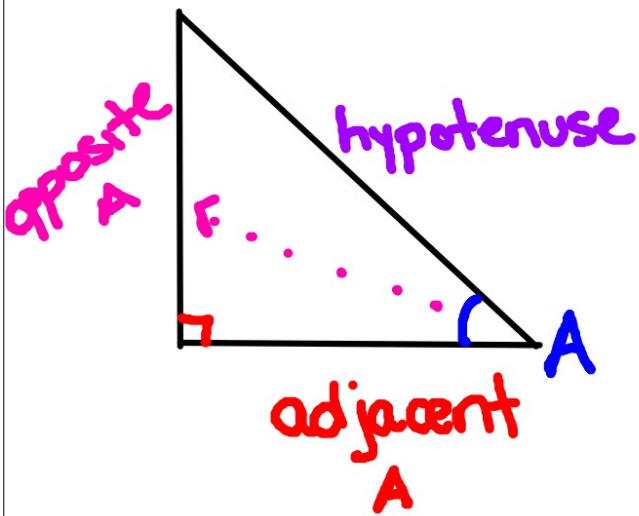


$$\begin{aligned} x^2 + 7^2 &= 10^2 \\ x^2 + 49 &= 100 \\ -49 & \quad -49 \\ \hline \sqrt{x^2} &= \sqrt{51} \\ x &\approx 7.1 \end{aligned}$$

* Right Triangle Trigonometry

α = alpha

θ = theta





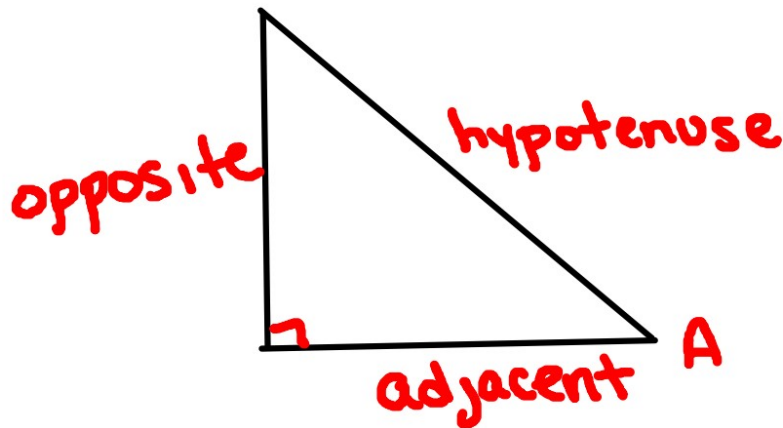
Trig Ratios

SDHCAHTOA

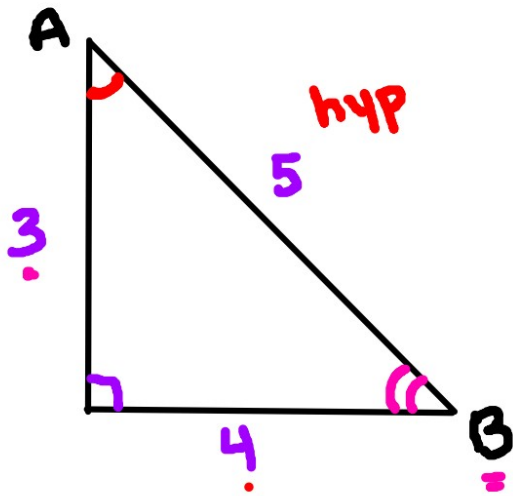
1) Sine A $\Rightarrow \sin A = \frac{\text{opp}}{\text{hyp}}$

2) Cosine A $\Rightarrow \cos A = \frac{\text{adj}}{\text{hyp}}$

3) Tangent A $\Rightarrow \tan A = \frac{\text{opp}}{\text{adj}}$



Ex:



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

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

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

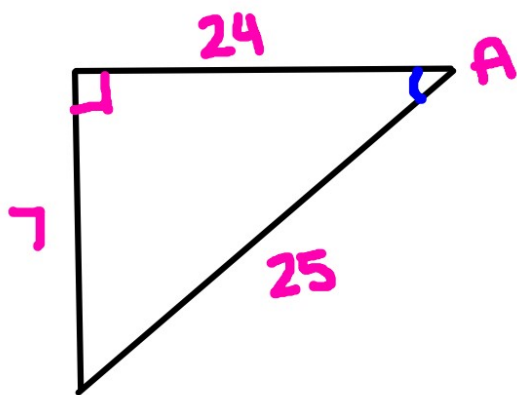
$$\cos B = \frac{4}{5}$$

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

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

SOH CAH TOA

Ex:



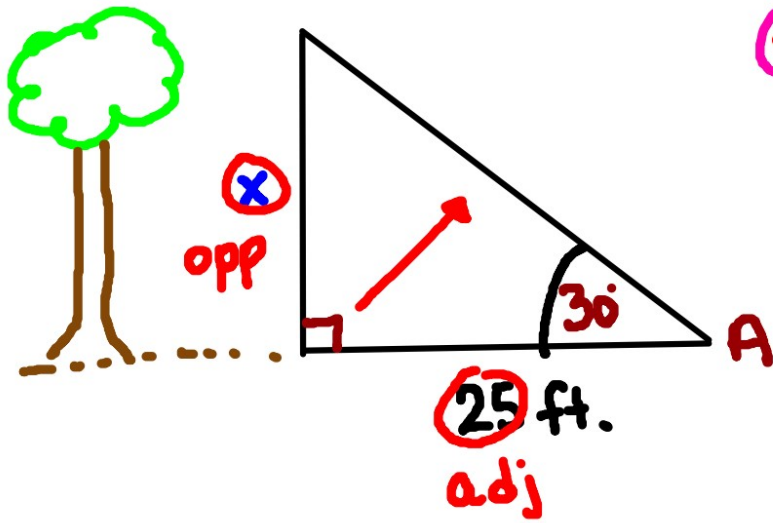
Find:

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

$$\cos A = \frac{24}{25}$$

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

SOH
CAH
TOA



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

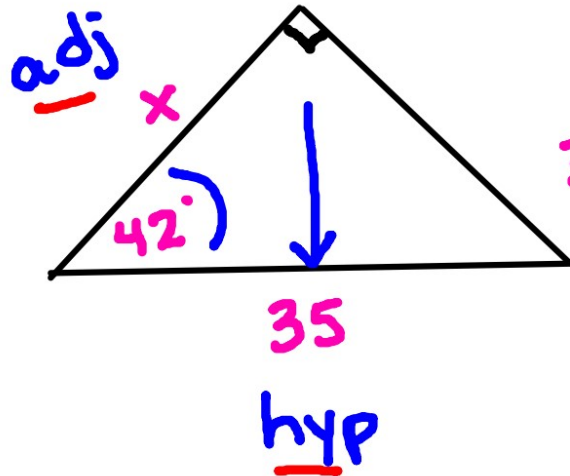
$$25 \cdot \tan 30 = \frac{\textcircled{x}}{25} \cdot 25$$

$$25 \cdot \tan 30 = x$$

$$x \approx 14.43 \text{ ft.}$$

$$\tan 50^\circ = 1.19$$

Ex:



Find x :

$$35 \cdot \cos 42^\circ = \frac{x}{35} \cdot 35$$

$$x \approx 26.01$$

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

CAH

Solve:

$$x \sin 38^\circ = \frac{20}{\cancel{x}} \cdot \cancel{x}$$

$$\frac{x \cdot \cancel{\sin 38^\circ}}{\cancel{\sin 38^\circ}} = \frac{20}{\sin 38^\circ}$$

$$x \approx 32.49$$