Trigonometry Part 3

What if You Need to Find an Angle Measure?

Use **Inverse Trig Ratios**

Inverse Trig Ratios include

$\sin^{-1}$, $\cos^{-1}$, $\tan^{-1}$

Use **Inverse Trig Ratios**!

If $\sin 30° = \frac{1}{2}$ or 0.5 , then

$\sin^{-1}(0.5) = 30°$

$\sin^{-1}(x)$ is read as **"the inverse sine of x"**

(this is the opposite of sine and gives us the missing angle measure)

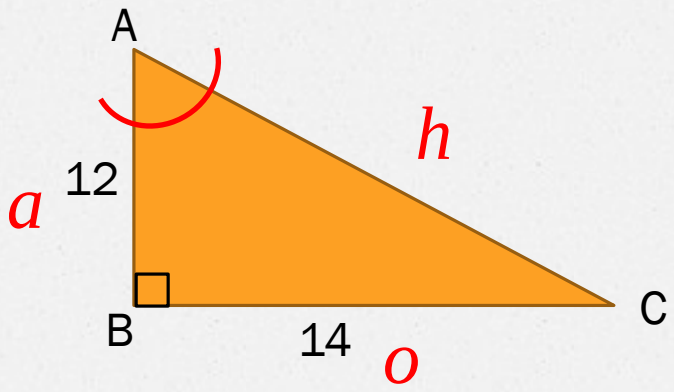
Practice Finding Angle Measures

Round to the nearest WHOLE degree.
Don't forget to include the degree sign.

- $\angle U = \sin^{-1}(0.5878)$ $\quad \angle U = 36°$
- $\angle X = \tan^{-1}(1.7321)$ $\quad \angle X = 60°$
- $\angle A = \cos^{-1}(0.9135)$ $\quad \angle A = 24°$
- $\angle X = \sin^{-1}\left(\frac{3}{4}\right)$ $\quad \angle X = 49°$

Find the Measure of $\angle A$

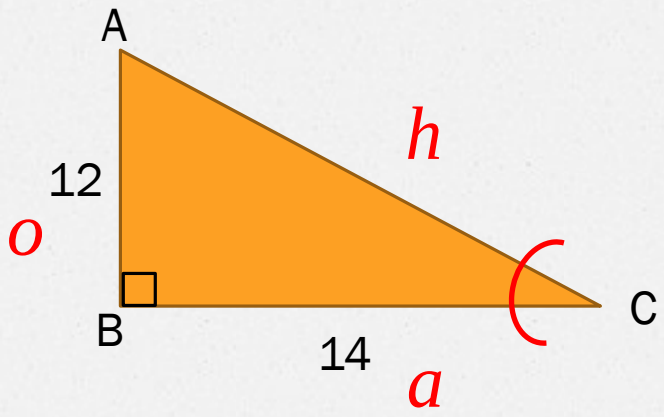
Mark your angle and label your sides - ***a**djacent*, ***o**pposite*, and ***h**ypotenuse*.



$$\tan \angle A = \frac{o}{a} \qquad \tan \angle A = \frac{14}{12} \qquad \tan^{-1}\left(\frac{14}{12}\right) \approx 49°$$

Find the Measure of $\angle C$

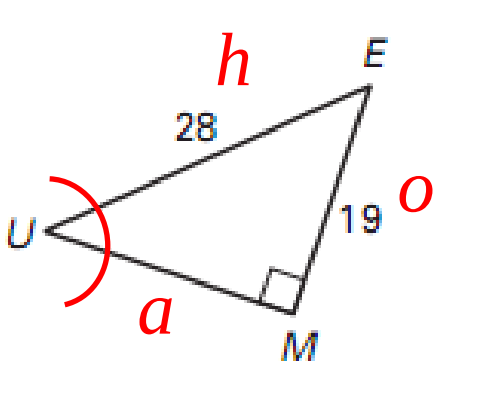
Mark your angle and label your sides - ***a**djacent*, ***o**pposite*, and ***h**ypotenuse*.



$$\tan \angle C = \frac{o}{a} \qquad \tan \angle C = \frac{12}{14} \qquad \tan^{-1}\left(\frac{12}{14}\right) \approx 41°$$

Find the Measure of $\angle U$

Mark your angle and label your sides - ***a**djacent*, ***o**pposite*, and ***h**ypotenuse*.



$$\sin\angle U = \frac{o}{h} \qquad \sin\angle U = \frac{19}{28} \qquad \sin^{-1}\left(\frac{19}{28}\right) \approx 43°$$