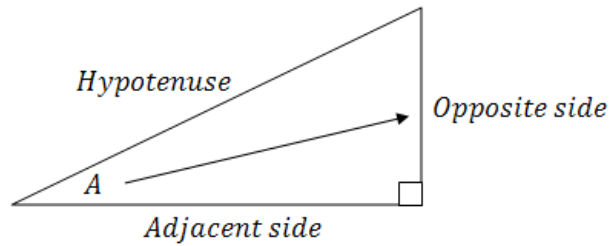


Unit 6 Trigonometry DAY 1

★ Using trigonometric ratios to solve for unknown sides

Remember SOH-CAH-TOA!

A = starting angle



$$\sin A = \frac{\text{Opposite side}}{\text{Hypotenuse}}$$

$$\cos A = \frac{\text{Adjacent side}}{\text{Hypotenuse}}$$

$$\tan A = \frac{\text{Opposite side}}{\text{Adjacent side}}$$

Apr 13-8:55 AM

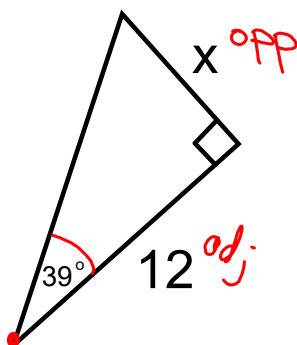
★ Using trigonometric ratios to solve for unknown sides

$$\sin A = \frac{\text{Opposite side}}{\text{Hypotenuse}}$$

$$\cos A = \frac{\text{Adjacent side}}{\text{Hypotenuse}}$$

$$\tan A = \frac{\text{Opposite side}}{\text{Adjacent side}}$$

Find the value of x.



1. Identify angle
2. Identify sides with respect to the angle
3. Choose correct trig. ratio to use
4. Set up equation to solve for x.

$$12 \cdot \tan(39) = \frac{x}{12}$$

$$9.7 = x$$

Apr 17-12:44 AM

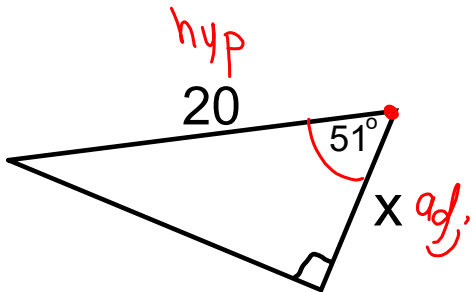
★ Using trigonometric ratios to solve for unknown sides

$$\sin A = \frac{\text{Opposite side}}{\text{Hypotenuse}}$$

$$\cos A = \frac{\text{Adjacent side}}{\text{Hypotenuse}}$$

$$\tan A = \frac{\text{Opposite side}}{\text{Adjacent side}}$$

Find the value of x.



$$20 \cdot \cos(51) = \frac{x}{20} \cdot 20$$

$$12.6 = x$$

Mar 12-8:43 AM

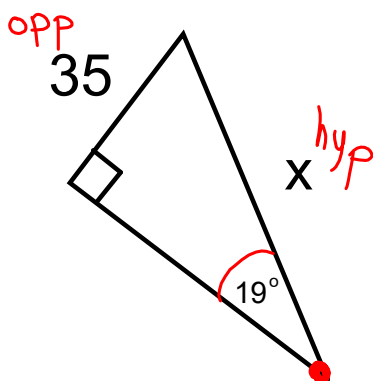
★ Using trigonometric ratios to solve for unknown sides

$$\sin A = \frac{\text{Opposite side}}{\text{Hypotenuse}}$$

$$\cos A = \frac{\text{Adjacent side}}{\text{Hypotenuse}}$$

$$\tan A = \frac{\text{Opposite side}}{\text{Adjacent side}}$$

Find the value of x.



$$x \cdot \sin(19) = \frac{35}{x} \cdot x$$

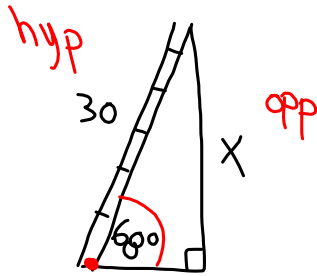
$$\frac{x \cdot \sin(19)}{\sin(19)} = \frac{35}{\sin(19)}$$

$$x = 107.5$$

Apr 17-12:44 AM

Word Problem: (SAT Problem)

A 30 ft. ladder makes a 68 degree angle with the ground as it leans against a building. How high up the building does the ladder reach ? *Draw a diagram first.*



$$30 \cdot \sin(68) = \frac{x}{30} \cdot 30$$

$$27.8 \text{ ft.} = x$$

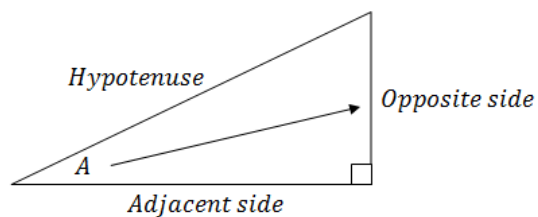
May 7-10:18 AM

Inverse trigonometric functions

★ Using trigonometric ratios to solve for unknown angles

Remember SOH-CAH-TOA!

A = starting angle



$$\sin^{-1}\left(\frac{\text{Opposite side}}{\text{Hypotenuse}}\right) = A$$

$$\cos^{-1}\left(\frac{\text{Adjacent side}}{\text{Hypotenuse}}\right) = A$$

$$\tan^{-1}\left(\frac{\text{Opposite side}}{\text{Adjacent side}}\right) = A$$

Apr 17-12:54 AM

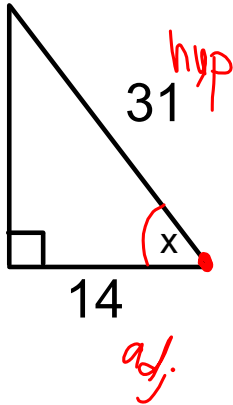
★ Using trigonometric ratios to solve for unknown angles

$$\sin^{-1}\left(\frac{\text{Opposite side}}{\text{Hypotenuse}}\right) = A$$

$$\cos^{-1}\left(\frac{\text{Adjacent side}}{\text{Hypotenuse}}\right) = A$$

$$\tan^{-1}\left(\frac{\text{Opposite side}}{\text{Adjacent side}}\right) = A$$

Find the value of x.



1. Identify angle
2. Identify sides with respect to the angle
3. Choose correct inverse trig. ratio to use
4. Set up equation to solve for angle.

$$\cos^{-1}\left(\frac{14}{31}\right) = x$$

$$63^\circ = x$$

Apr 17-12:44 AM

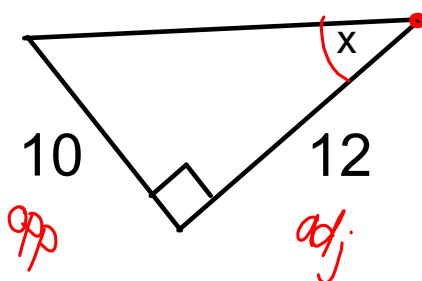
★ Using trigonometric ratios to solve for unknown angles

$$\sin^{-1}\left(\frac{\text{Opposite side}}{\text{Hypotenuse}}\right) = A$$

$$\cos^{-1}\left(\frac{\text{Adjacent side}}{\text{Hypotenuse}}\right) = A$$

$$\tan^{-1}\left(\frac{\text{Opposite side}}{\text{Adjacent side}}\right) = A$$

Find the value of x.



$$\tan^{-1}\left(\frac{10}{12}\right) = x$$

$$40^\circ = x$$

Mar 12-8:44 AM