

9-2 Trig Review

Objectives:

- I can find the trigonometric functions of acute angles.
- I can identify reciprocal functions

Jan 31-10:03 PM

Trig Functions

SohCahToa

sine $S = \frac{\text{opp.}}{\text{hyp.}}$

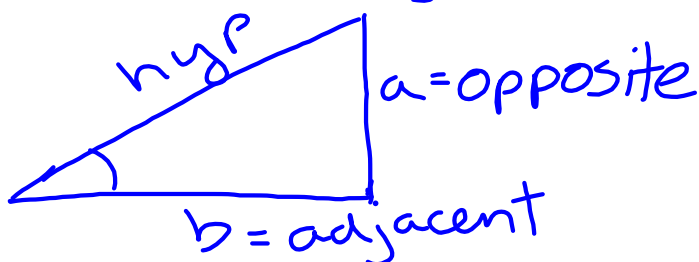
cosine $C = \frac{\text{adj.}}{\text{hyp.}}$

tangent $T = \frac{\text{opp}}{\text{adj}}$

cosecant $\frac{\text{hyp.}}{\text{opp.}}$

secant $\frac{\text{hyp}}{\text{adj}}$

cotangent $\frac{\text{adj}}{\text{opp}}$



Dec 16-9:05 AM

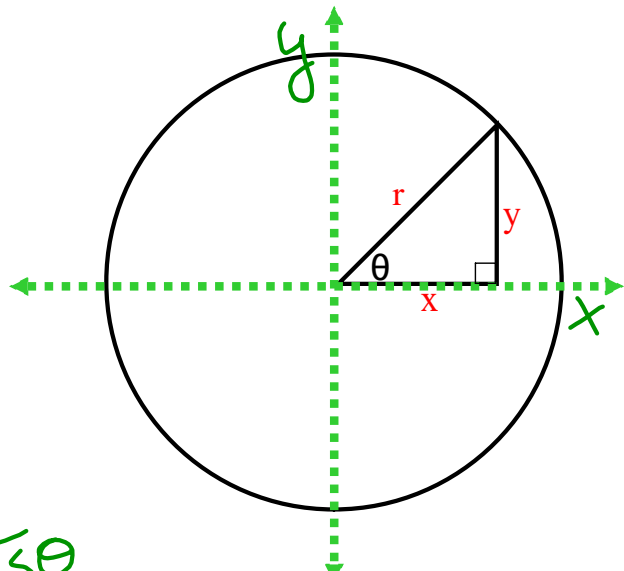
$$\sin \theta = \frac{\text{opp}}{\text{hyp}} = \frac{y}{r}$$

$$\cos \theta = \frac{\text{adj}}{\text{hyp}} = \frac{x}{r}$$

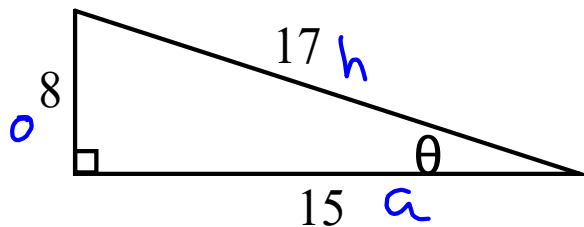
$$\tan \theta = \frac{\text{opp}}{\text{adj}} = \frac{y}{x}$$

$$\frac{1}{\sin \theta} = \frac{\text{hyp}}{\text{opp}} = \frac{r}{y} \quad \frac{1}{\cos \theta} = \frac{\text{hyp}}{\text{adj}} = \frac{r}{x} \quad \cot \theta = \frac{\text{adj}}{\text{opp}} = \frac{x}{y}$$

$$\sec \theta = \frac{\text{hyp}}{\text{adj}} = \frac{r}{x} \quad \csc \theta = \frac{\text{hyp}}{\text{opp}} = \frac{r}{y} \quad \tan \theta = \frac{\text{opp}}{\text{adj}} = \frac{y}{x}$$



Dec 16-9:14 AM



Find all six trig ratios for the given triangle:

$$\sin \theta = \frac{8}{17}$$

$$\csc \theta = \frac{17}{8}$$

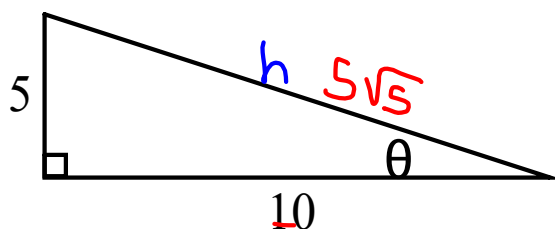
$$\cos \theta = \frac{15}{17}$$

$$\sec \theta = \frac{17}{15}$$

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

$$\cot \theta = \frac{15}{8}$$

Dec 16-9:18 AM



Find all six trig ratios for the given triangle:

$$\sin \theta$$

$$\frac{1}{\sqrt{5}}$$

$$\csc \theta \frac{\sqrt{5}}{1}$$

$$\cos \theta$$

$$\frac{10}{5\sqrt{5}} \quad \frac{2}{\sqrt{5}}$$

$$\sec \theta$$

$$\frac{\sqrt{5}}{2}$$

$$\tan \theta$$

$$\frac{5}{10} \quad \frac{1}{2}$$

$$\cot \theta \quad 2$$

Dec 16-9:30 AM

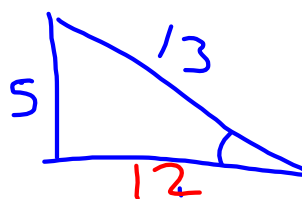
Given the following trig function, find the remaining 5 functions:

$$\csc \theta = \frac{13}{5} = \frac{h}{o}$$

$$\sin \theta = \frac{5}{13}$$

$$\cos \theta = \frac{12}{13}$$

$$\tan \theta = \frac{5}{12}$$



$$\csc \theta = \frac{13}{5}$$

$$\sec \theta$$

•

Dec 16-9:30 AM

Given the following trig function, find the remaining 5 functions:

$$\cot \theta = \frac{7}{12}$$

Feb 8-9:23 PM

Using your calculator, find:

$$\tan 8^\circ =$$

$$\approx 0.14$$

$$\cot \frac{\pi}{12} = 3.73$$

$$\tan \frac{\pi}{12} =$$

$$\cos 18.15^\circ =$$

$$.95$$


$$\tan 5.25 =$$

$$\approx -1.68$$

$$\sec \frac{\pi}{6} = 1.15$$

$$\cos \frac{\pi}{6} \approx .87$$

Dec 16-9:52 AM



Standing 15' from a tree you must look up at 48° to see the top of the tree. How tall is the tree?

15 h

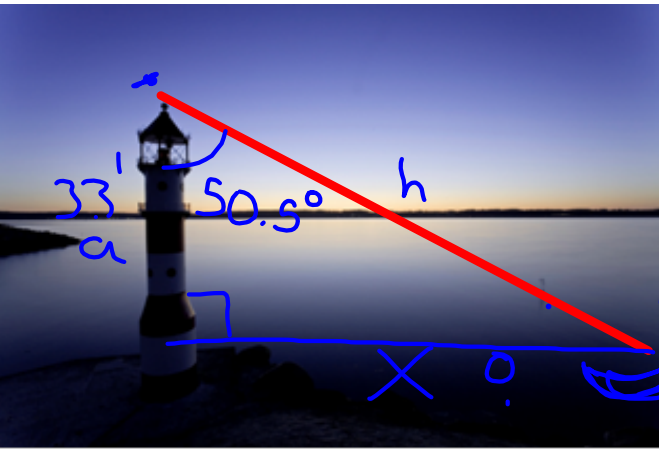
48°

$$\tan \theta = \frac{x}{15}$$

$$\tan 48^\circ = \frac{x}{15} \quad 16.66\text{ft.}$$

$$15 \tan 48^\circ = x$$

Dec 16-9:39 AM



A bird sitting on a 33' tower looks at a boat from an angle of depression of 50.5° . How far is the boat from the tower?

33' h

50.5°

x

$$\tan \theta = \frac{o}{a}$$

$$33 \tan 50.5^\circ = \frac{x}{33} \cdot 33$$

40ft

Dec 16-9:39 AM