

Objective: To use basic right triangle trigonometry to find lengths of missing sides or missing angles.

Warm Up: What is SohCahToa, and how/why is it used?

Vocabulary:

Right Triangle: A three-sided polygon that has one right angle and sides that are classified as legs or the hypotenuse.

Sine (sin):

Cosecant (csc):

Cosine (cos):

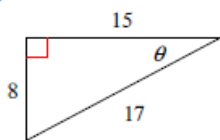
Secant (sec):

Tangent (tan):

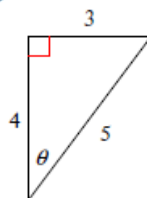
Cotangent (cot):

Example 1: Evaluate the trig functions based off of the given right triangles

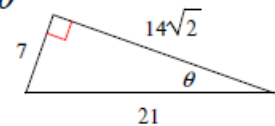
A.) $\sec \theta$



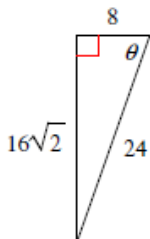
B.) $\cot \theta$



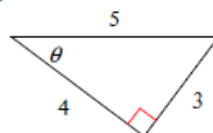
C.) $\cos \theta$



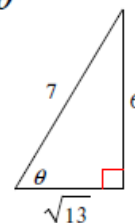
D.) $\csc \theta$



E.) $\tan \theta$



F.) $\sin \theta$



Example 2: Find the value of the trig function indicated.

A.) Find $\csc \theta$ if $\tan \theta = \frac{3}{4}$

B.) Find $\cot \theta$ if $\sec \theta = 2$

Example 3: Use your calculator to evaluate the trig function. Round to four decimal places.

*****Make sure that your calculator is set to DEGREES for this section.*****

A.) $\sin 15^\circ$

B.) $\cos 40^\circ$

C.) $\tan 50^\circ$

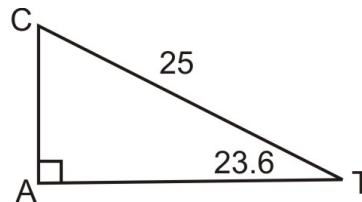
D.) $\csc 20^\circ$

E.) $\sec 60^\circ$

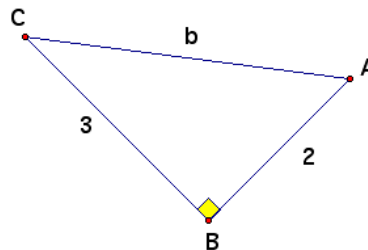
F.) $\cot 80^\circ$

Example 4:

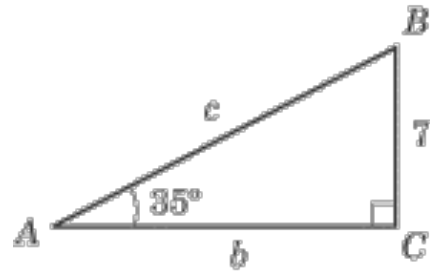
A.) Find the missing sides and angles of Triangle ACT



B.) Find the missing sides and angles of Triangle ABC



C.) Find the missing sides and angles of Triangle ABC



Reflect:

How do you know when to use \sin or \sin^{-1} ?