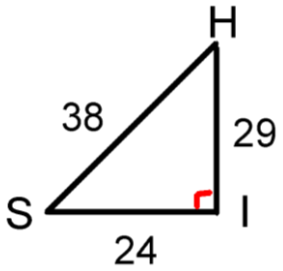
Warm Up:

Find the value of sine, cosine and tangent ratio for angle S.



SOH CAH TOA helps us remember the 3 primary trig ratios:

Trig ratios can be used to find the measures of a right triangle that are not known.

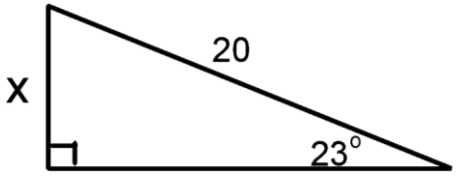
In order to do this we must follow the steps that will help us first identify the trig ratio (sin, cos, tan) that relates the given and needed information, and then solve for the unknown.

Steps for Solving for an Unknown Side

1. **Identify your reference _____.**
2. **_____ your triangle using the reference angle**
3. **Decide what ratio to use (using the Have, Need, Use method)**
4. **Cross _____**
5. **Isolate x**
6. **Conclude**

Example 1: For the following triangles, identify the trig ratio to use, write the equation and solve it to one decimal place.

a)

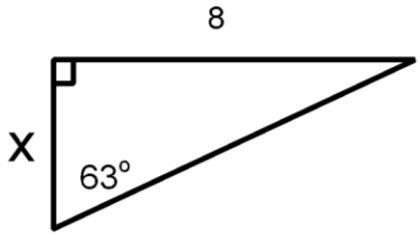


Have:

Need:

Use:

b)



Have:

Need:

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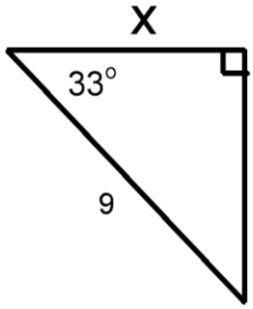
c)



Have:

Need:

Use:

Example 2: Dana's kite string is 35 m long. It makes an angle of 50^{o} with the ground. Let x be the horizontal distance, in metres to the kite. What is the horizontal distance between the kite and Dana?