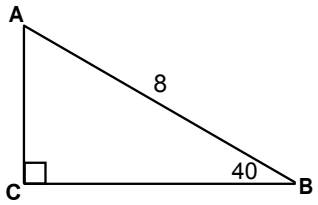
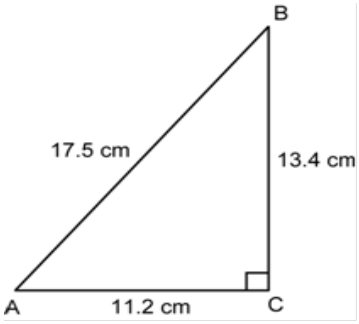
Using Sine, Cosine, and Tangent to Find Missing Side Lengths



DO IT NOW!



Sinθ =

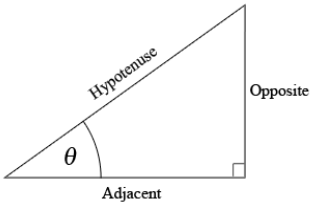
Cosθ =

Tanθ =

Review

Each angle has its own unique sine, cosine, and tangent ratio that never changes

S $\frac{O}{H}$ **C** $\frac{A}{H}$ **T** $\frac{O}{A}$



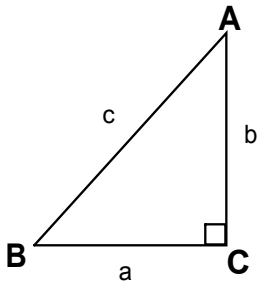
$\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}}$

$\cos\theta = \frac{\text{adjacent}}{\text{hypotenuse}}$

$\tan\theta = \frac{\text{opposite}}{\text{adjacent}}$

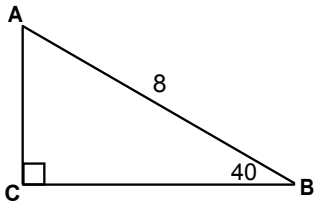
REMEMBER:

- Label angles with a CAPITAL letter
- Label sides opposite the angles with the same letter in lower case.



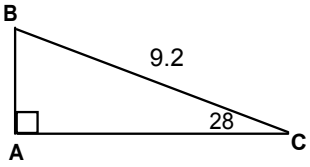
S $\frac{O}{H}$ C $\frac{A}{H}$ T $\frac{O}{A}$

1 Find the length of side `b`



S $\frac{O}{H}$ C $\frac{A}{H}$ T $\frac{O}{A}$

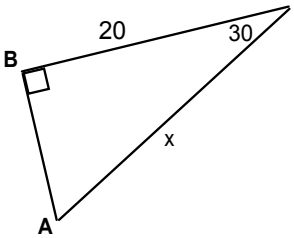
2 Find the length of side `c`



3

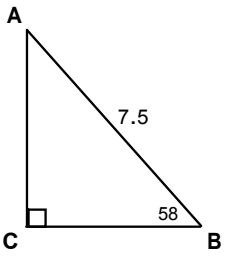
S $\frac{O}{H}$ C $\frac{A}{H}$ T $\frac{O}{A}$

Find `x`



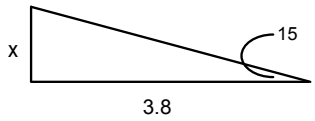
S $\frac{O}{H}$ C $\frac{A}{H}$ T $\frac{O}{A}$

4 Find the Length of ***a***



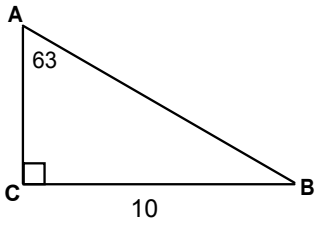
5 $S\frac{O}{H}\ C\frac{A}{H}\ T\frac{O}{A}$

Find `x`



6 $S\frac{O}{H}\ C\frac{A}{H}\ T\frac{O}{A}$

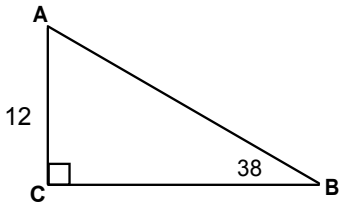
Find the length of side `b`



SOLVE THE TRIANGLE

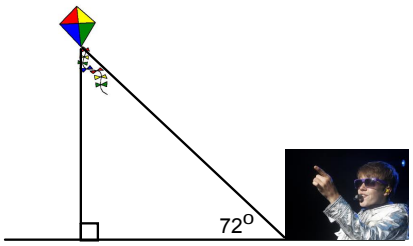
7 $S\frac{O}{H}\ C\frac{A}{H}\ T\frac{O}{A}$

Solve the Triangle (find each of the missing side lengths and angles)



APPLICATION

Justin Bieber has let out 40 meters of his kite string, which makes an angle of 72 degrees with the ground. Find the height of the kite, to the nearest meter.



Complete the Worksheet!!