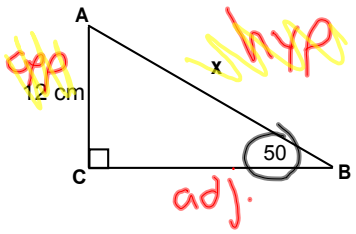
Find sides using trig ratios (day 2)

DO IT NOW!

Find 'x' :



opp hyp adj.

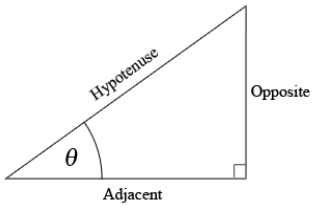
$\sin 50 = \frac{12}{x}$

$x = \frac{12}{\sin 50}$

$x = 15.66$

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

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



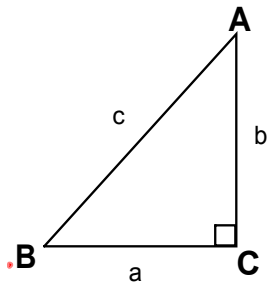
$\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}}$

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

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

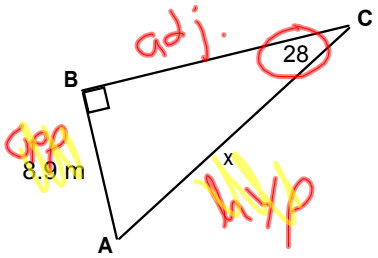
REMEMBER:

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



1 Find `x`

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



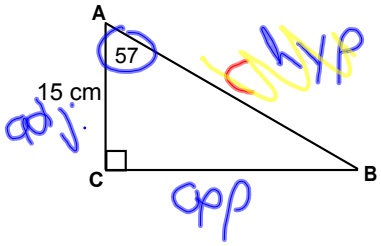
adj. opp hyp

$\sin 28 = \frac{8.9}{x}$

$x = \frac{8.9}{\sin 28}$

$x = 18.96$

2 Find `c`



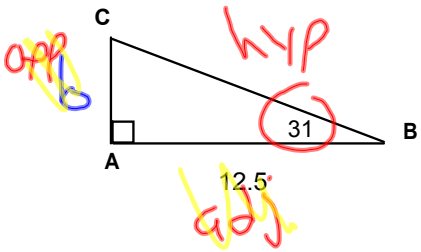
adj. hyp opp

$\cos 57 = \frac{15}{c}$

$c = \frac{15}{\cos 57}$

$c = 27.54$

3 Find 'b'



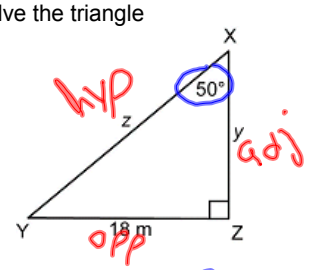
opp hyp adj

$\tan 31 = \frac{b}{12.5}$

$12.5(\tan 31) = b$

$b = 7.51$

4 Solve the triangle



hyp adj opp

$\angle Y = 180 - 90 - 50$

$= 40$

$\sin 50 = \frac{18}{z}$

$z = \frac{18}{\sin 50}$

$z = 23.5$

$\tan 50 = \frac{18}{y}$

$y = \frac{18}{\tan 50}$

$y = 15.1$

Complete the Worksheet