

Soh Cah TOA



-



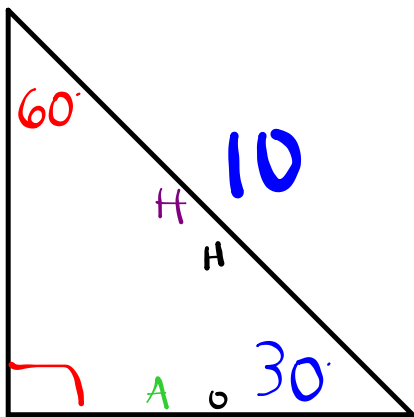
Finding a missing side using TRIG

SOH

CAH

TOA

ex. 1



$$\begin{aligned} \cos(30^\circ) &= \frac{x}{10} \\ x &= 10 \cdot \cos(30^\circ) \\ x &= 8.66 \end{aligned}$$

$$\begin{aligned} \sin(60^\circ) &= \frac{x}{10} \\ x &= 10 \cdot \sin(60^\circ) \\ x &= 8.66 \end{aligned}$$

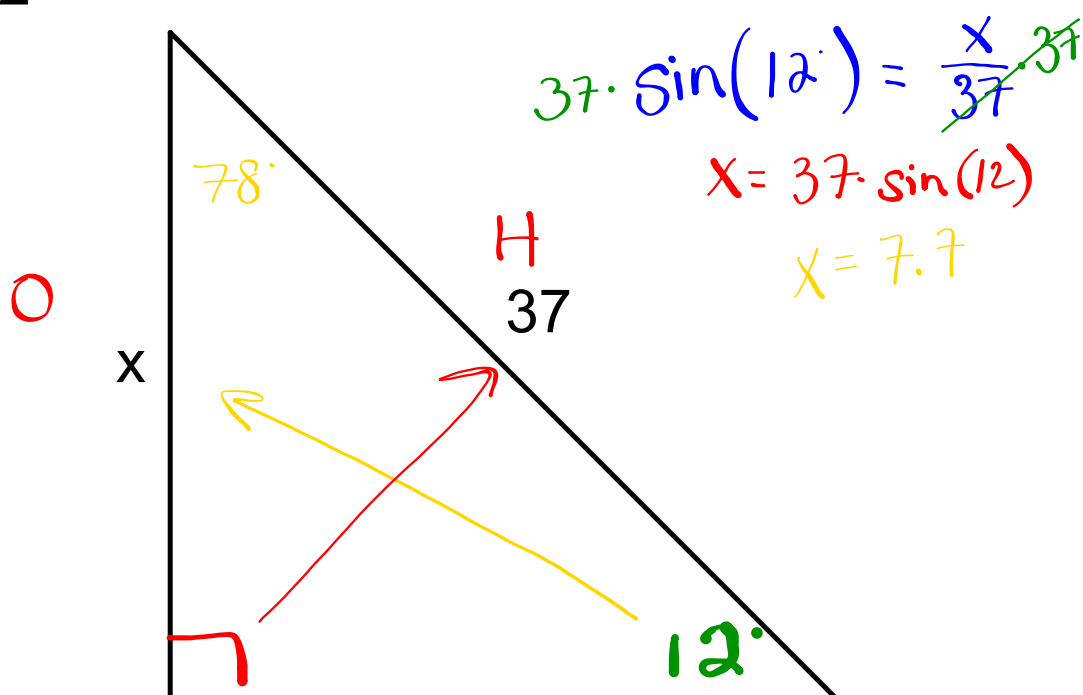
1) identify which sides are given in the triangle

(O-A-H)

2) set up equation based on Trig function

3) solve just like a basic algebraic equation

Ex. 2



Ex. 3

$$\tan(54) = \frac{76}{x}$$

$$x = \frac{76}{\tan(54)}$$

○
76

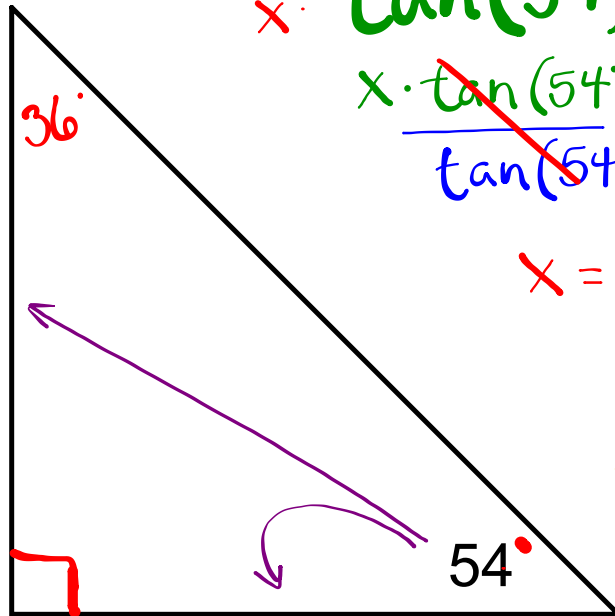
★ if variable is on bottom, switch variable and trig function

$$x \cdot \tan(54) = \frac{76}{x} \cdot x$$

$$\frac{x \cdot \tan(54)}{\tan(54)} = \frac{76}{\tan(54)}$$

$$x = \frac{76}{\tan(54)}$$

$$x = 55.2$$



x
55.2

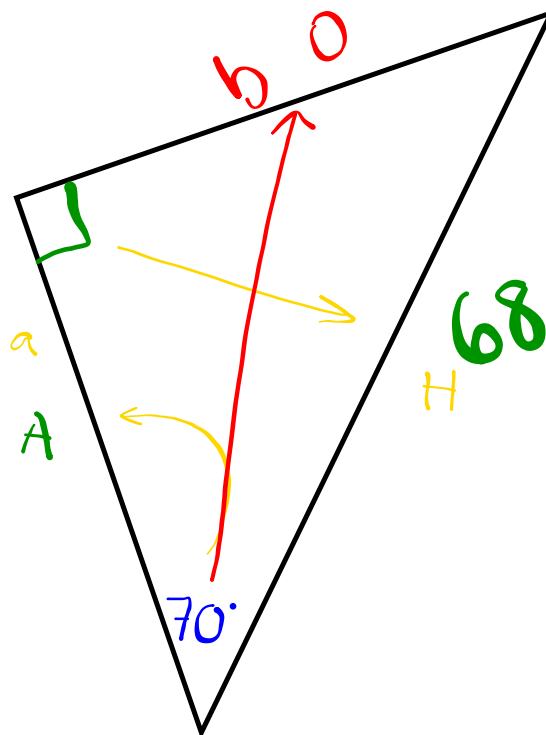
Ex. 4

solve for a

$$\cos(70) = \frac{a}{68}$$

$$a = 68 \cos(70)$$

$$a = 23.26$$

solve for b

$$\sin(70) = \frac{b}{68}$$

$$b = 68 \sin(70)$$

$$b = 63.9$$