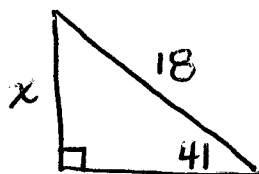


Right Triangle Trigonometry
When Variable is in the numerator

Given Example:



Mnemonic Device

$$\sin = \frac{\text{opp}}{\text{hyp}} \quad \cos = \frac{\text{adj}}{\text{hyp}} \quad \tan = \frac{\text{opp}}{\text{adj}}$$

Soh Cah Toa

Steps

1. Determine the relationship between the given angle, given side and variable side
2. Determine function and write fraction
3. set up equation
function(angle) = fraction
4. multiply both sides by denominator, put in front of function
5. Plug in calculator, use regular function round to one decimal place

Example

1. $x = \text{opp} \quad 18 = \text{hyp}$
 $\theta = 41^\circ$

2. $\sin ; \frac{x}{18}$

3. $\sin(41) = \frac{x}{18}$

4. $\sin(41) = \frac{x}{18}$
 $18 \sin(41) = x$

5. 11.809

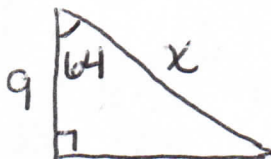
Final Answer:

$$x = 11.8$$

(side length)

When the variable is in the Denominator

Given Example:



Mnemonic Device

Soh Cah Toa

Steps

1. Determine the relationship between given angle, given side and variable side

2. Determine function and fraction

3. Set up equation
function(angle) = fraction

4. Switch your variable and function.

D=denominator; D=Divide

5. Plug into calculator, remember division round one^{dec.} place

Example

1. $9 = \text{adj}$ $x = \text{hyp}$
 $\theta = 64$

2. \cos ; $\frac{9}{x}$

3. $\cos(64) = \frac{9}{x}$

4. $\cos(64) = \frac{9}{x}$

$x = \frac{9}{\cos 64}$

5. $9 / \cos 64$

Final Answer:

20.5