

Finding missing angles in right triangle-Note

Name: Notes

Inverse operation: _____

Trig Functions also has Inverse / $\sin A \rightarrow \sin^{-1}$
 $\cos \rightarrow \cos^{-1}$
 $\tan \rightarrow \tan^{-1}$ } helps you find angles

Examples:

1- Find the measure of each angle (round to the nearest tenth)

$\sin x = 0.829$

$x = \sin^{-1}(0.829)$

$\angle x = 60^\circ$

$\cos A = 0.1114$

$\angle A = \cos^{-1}(0.1114)$

$\angle A = 83.6^\circ$

$\cos y = 0.743$

$y = \cos^{-1}(0.743)$

$\angle y = 42^\circ$

$\sin B = .9734$

$\angle B = \sin^{-1}(0.9734)$

$\angle B = 76.7^\circ$

$\tan z = 4.705$

$z = \tan^{-1}(4.705)$

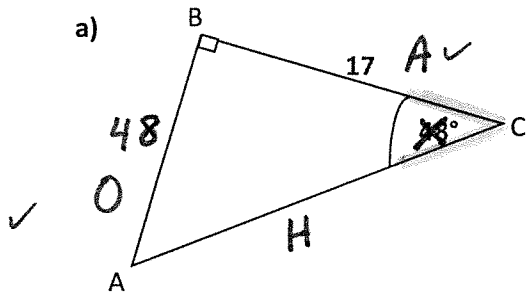
$\angle z = 78^\circ$

$\tan C = 4.0332$

$\angle C = \tan^{-1}(4.0332)$

$\angle C = 76.1^\circ$

2- Find x in each and round to the nearest tenth

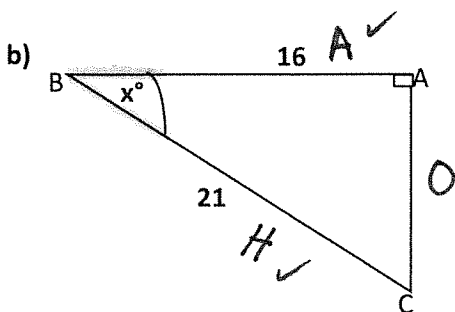


SOH(CAH)TOA

$\tan x^\circ = \frac{48}{17} = 2.82$

$\angle x^\circ = \tan^{-1}(2.82)$

$\angle x^\circ = 70.5^\circ$



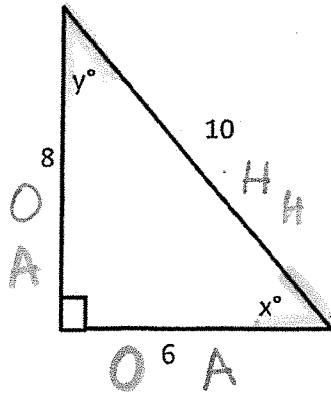
SOH(CAH)TOA

$\cos x^\circ = \frac{16}{21} = 0.76$

$\angle x^\circ = \cos^{-1}(0.76)$

$\angle x^\circ = 40.4^\circ$

c)



Find x and y

SOH CAH TOA

① X - We have all of the side
Choose one Ratio to work with

$$\text{SOH} \rightarrow \sin x^\circ = \frac{8}{10} = 0.8$$

$$\angle x^\circ = \sin^{-1}(0.8)$$

$$\angle x^\circ = 53^\circ$$

② Y - We can also use any ratio we want

$$\text{SOH} \rightarrow \sin y^\circ = \frac{6}{10} = 0.6$$

$$\angle y^\circ = \sin^{-1}(0.6)$$

$$\angle y^\circ = 36.9^\circ$$