

Finding missing angles in right triangle-Note Name: _____

Inverse operation: opposite of an operation $(+) \rightarrow (-)$ $\times \rightarrow \div$

Trig Functions also has Inverses / $\left. \begin{array}{l} \sin \rightarrow \sin^{-1} \\ \cos \rightarrow \cos^{-1} \\ \tan \rightarrow \tan^{-1} \end{array} \right\}$ Find Angles

Examples:

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

$\sin x = 0.829$

$\downarrow \sin^{-1}(0.829) = \angle x$
 $\angle x = 56^\circ$

$\cos A = 0.1114$

$\angle A = 83.6^\circ$
 $\angle A = 84^\circ$

$\cos y = 0.743$

$\angle y = 42^\circ$

$\sin B = .9734$

$\angle B = 77^\circ$

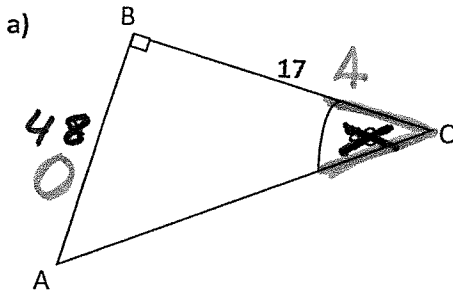
$\tan z = 4.705$

$\angle z = \tan^{-1}(4.705)$
 $\angle z = 78^\circ$

$\tan C = 4.0332$

$\angle C = 76^\circ$

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



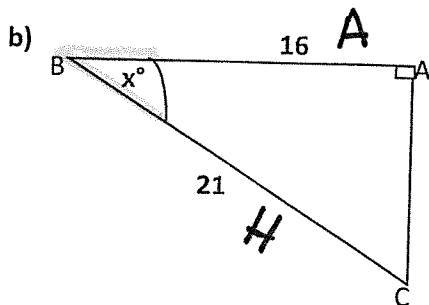
SOH CAH TOA

$* \tan x = \frac{48}{17} = 2.82$

$\tan x = 2.82$

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

$\angle x = 70.5^\circ$



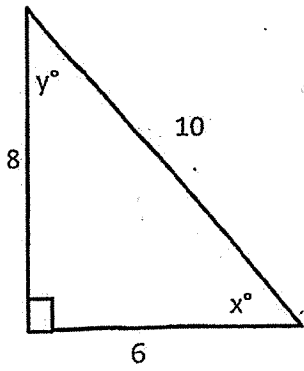
SOH CAH TOA

$* \cos x = \frac{16}{21} = 0.76$

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

$\angle x = 40^\circ$

c)



Find x and y

SOH CAH TOA

Using Trigonometry to Find Angle Measures

Find each angle measure to the nearest degree.

1) $\tan A = 2.0503$

Inverse

$\angle A = 64^\circ$

2) $\cos Z = 0.1219$

$\angle Z = 82.9^\circ$

3) $\tan Y = 0.6494$

$\angle Y = 32.9^\circ$

4) $\sin U = 0.8746$

$\angle U = 61^\circ$

5) $\cos V = 0.6820$

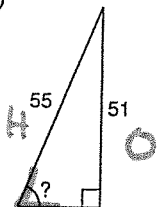
$\angle V = 47^\circ$

6) $\sin C = 0.2756$

$\angle C = 16^\circ$

Find the measure of the indicated angle to the nearest degree.

7)

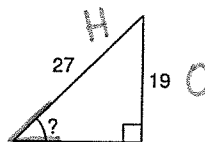


SOH CAH TOA

$\sin x = \frac{51}{55}$

$\angle x = 68^\circ$

8)

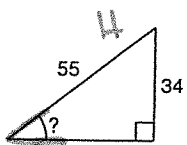


SOH CAH TOA

$\sin x = \frac{19}{27}$

$\angle x = 44.7^\circ$

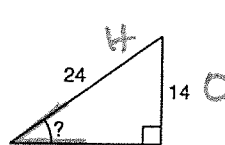
9)



$\sin x = \frac{34}{55}$

$\angle x = 38.1^\circ$

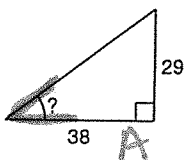
10)



$\sin x = \frac{14}{24}$

$\angle x = 35.6^\circ$

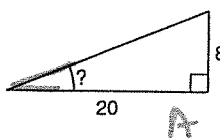
11)



$\tan x = \frac{29}{38}$

$\angle x = 37.3^\circ$

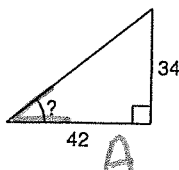
12)



$\tan x = \frac{8}{20}$

$\angle x = 21.8^\circ$

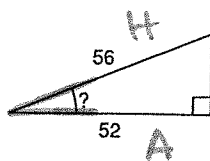
13)



$\tan x = \frac{34}{42}$

$\angle x = 39^\circ$

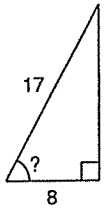
14)



$\cos x = \frac{52}{56}$

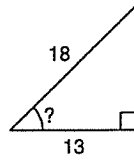
$\angle x = 21.7^\circ$

15)



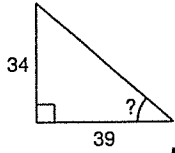
62°

16)



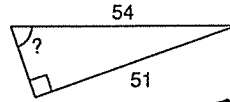
44°

17)



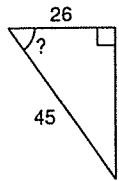
41°

18)



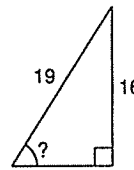
71°

19)



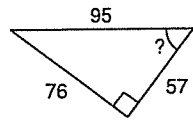
55°

20)



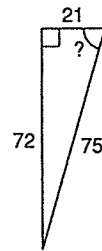
57°

21)



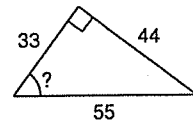
53°

22)



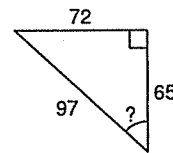
74°

23)



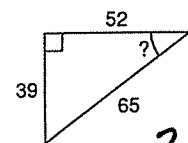
53°

24)



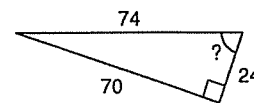
48°

25)



37°

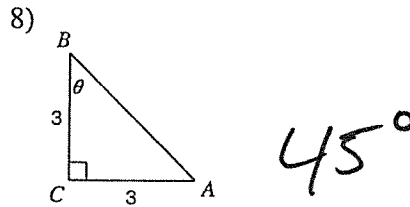
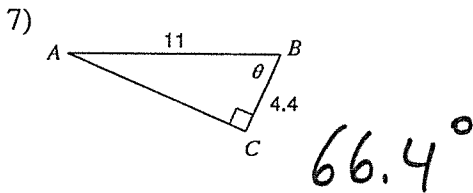
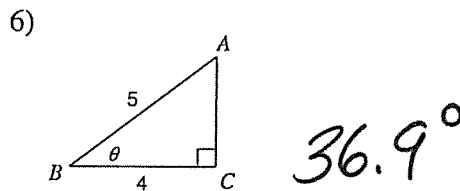
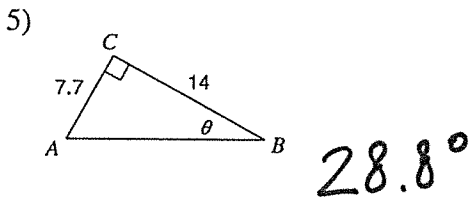
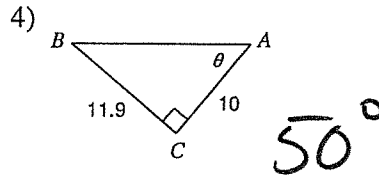
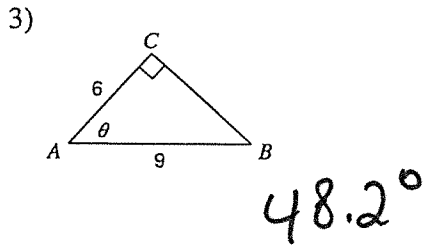
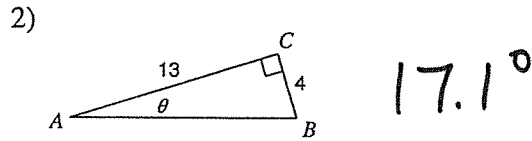
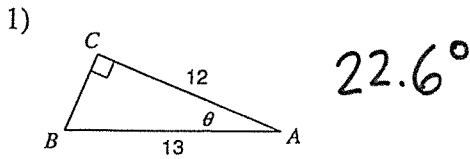
26)



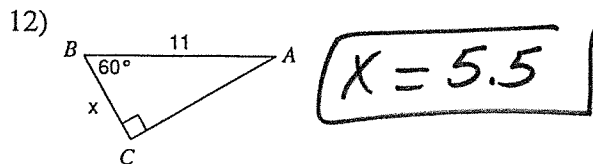
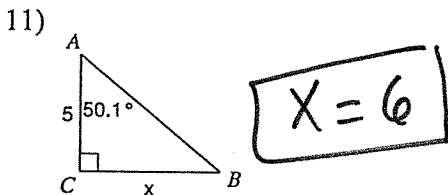
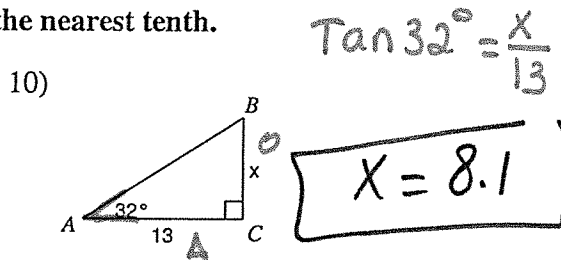
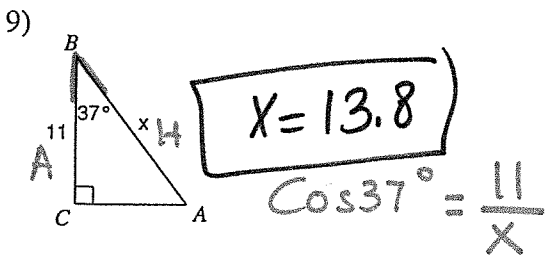
71°

Right Triangle Trig. - Finding Missing Sides and Angles Date _____ Period _____

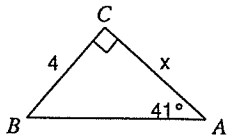
Find the measure of each angle indicated. Round to the nearest tenth.



Find the measure of each side indicated. Round to the nearest tenth.

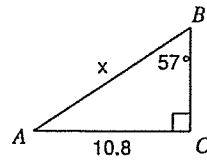


13)



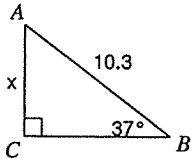
$$X = 4.6$$

14)



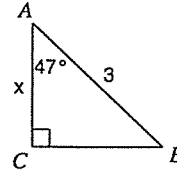
$$X = 12.9$$

15)



$$X = 6.2$$

16)

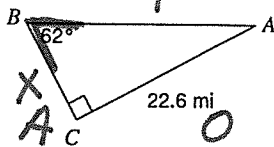


$$X = 2$$

Solve each triangle. Round answers to the nearest tenth.

(Find both sides)

17)

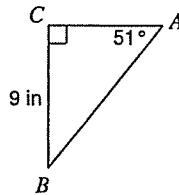


(SOH)CAH(TOA)

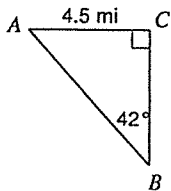
$$\tan 62 = \frac{22.6}{x}$$

$$\sin 62 = \frac{22.6}{y}$$

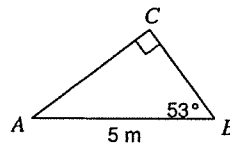
18)



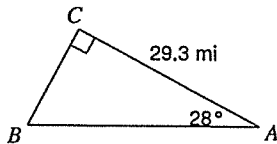
19)



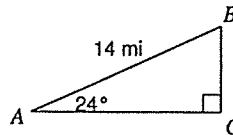
20)



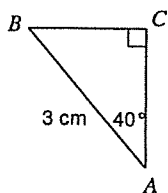
21)



22)



23)



24)

