

finding a missing angle

If you have 3 sides you must use $a^2 + b^2 = c^2$

If you have 2 sides and 1 angle, you must use SOH CAH TOA

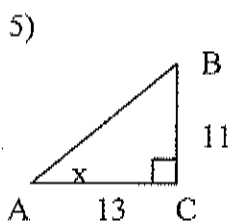
If you have 2 sides and a missing angle, you use 1st Sin, 2nd Sin, or 1st Tan

Use your calculator to find the measure of A, to the nearest degree.

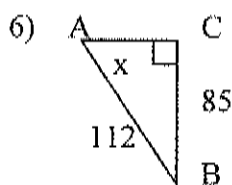
1) $\sin A = 0.8290$ 56° 2) $\cos A = 0.8480$ 32°
 55.99615045 32.00519966

3) $\tan A = 1.6$ 58° 4) $\cos A = 0.9703$ 14°
 57.99461679 15.99898779

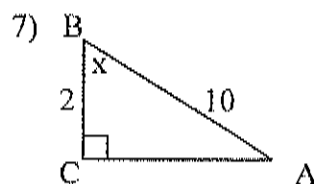
Find the indicated angle correct to the nearest degree or side to the nearest tenth.



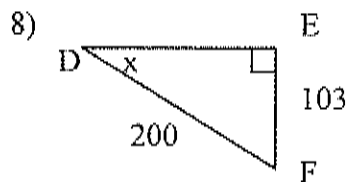
$\tan x = \frac{11}{13}$
 $x = \tan^{-1}\left(\frac{11}{13}\right)$
 $x = 40.23635831 \dots$
 $x = 40^\circ$



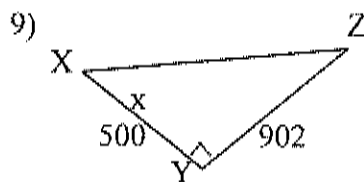
$\sin x = \frac{85}{112}$
 $x = \sin^{-1}\left(\frac{85}{112}\right)$
 $x = 49.36983394 \dots$
 $x = 49^\circ$



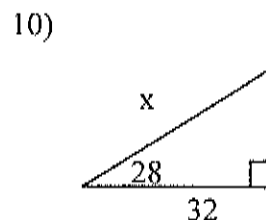
$\cos x = \frac{2}{10}$
 $x = \cos^{-1}\left(\frac{2}{10}\right)$
 $x = 78.46304097 \dots$
 $x = 78^\circ$



$\sin x = \frac{103}{200}$
 $x = \sin^{-1}\left(\frac{103}{200}\right)$
 $x = 30.99745499 \dots$
 $x = 31^\circ$



$\tan x = \frac{902}{500}$
 $x = \tan^{-1}\left(\frac{902}{500}\right)$
 $x = 60.99935688 \dots$
 $x = 61^\circ$



$\cos 28 = \frac{32}{x}$
 $x \cos 28 = 32$
 $x = \frac{32}{\cos 28}$
 $x = 36.24224162 \dots$
 $x = 36.2$

- 11) In right triangle ABC, $\angle C$ is a right angle.
If $b = 22$ and $c = 44$, find $m\angle A$

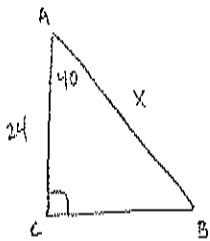
$$\cos X = \frac{22}{44}$$

$$X = \cos^{-1}\left(\frac{22}{44}\right)$$

$$X = 60^\circ$$



- 12) In right triangle ABC, $\angle C$ is a right angle.
If $b = 24$ and $m\angle A = 40$, find c .



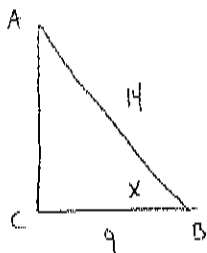
$$\frac{\cos 40}{1} = \frac{24}{X}$$

$$\frac{X \cos 40}{\cancel{\cos 40}} = \frac{24}{\cos 40}$$

$$X = 31.32977494\dots$$

$$X = 31.3$$

- 13) In right triangle ABC, $\angle C$ is a right angle.
If $a = 9$ and $c = 14$, find $m\angle B$.



$$\cos X = \frac{9}{14}$$

$$X = \cos^{-1}\left(\frac{9}{14}\right)$$

$$X = 49.99479912\dots$$

$$X = 50^\circ$$