

Math 11
Trigonometry Review

* make sure calculator is in degree mode!

Name: Key

1. Find each of the following to 3 decimal places.

(a) $\sin 27^\circ$
 $= 0.454$

(b) $\cos 56^\circ$
 $= 0.559$

(c) $\tan 78^\circ$
 $= 4.705$

2. Find the measure of each angle, to the nearest degree.

(a) $\sin D = 0.602$

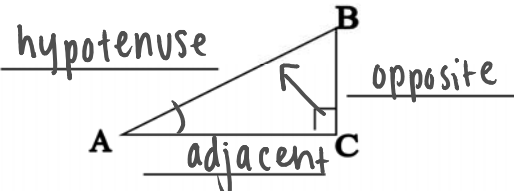
$\angle D = \sin^{-1}(0.602)$
 $= 37^\circ$

(b) $\cos Z = 0.309$

$= 72^\circ$

(c) $\tan X = 0.445$

$= 24^\circ$



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

To recall these trigonometric ratios quickly, remember the acronym:

S O H C A H T O A

Solve this triangle. Give the measures to the nearest tenth where necessary.

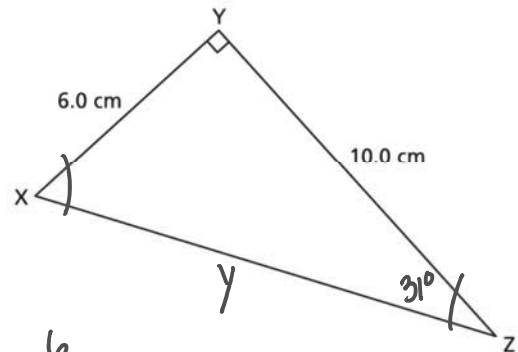
$\tan x = \frac{10}{6}$

$x = \tan^{-1}\left(\frac{10}{6}\right)$

$\angle x = 59^\circ$

$\angle z = 180 - 90 - 59$

$\angle z = 31^\circ$

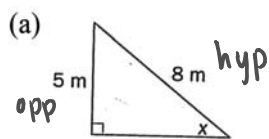


$\sin 31^\circ = \frac{6}{y}$

$y = \frac{6}{\sin 31^\circ} = 11.6 \text{ cm}$

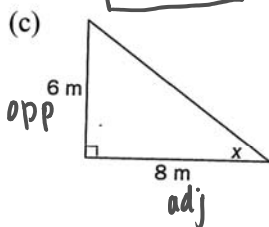
OR $a^2 + b^2 = c^2$

3. Find the measure of angle X, to the nearest degree.

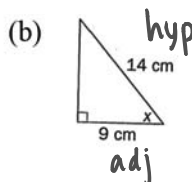


$$\sin X = \frac{5}{8}$$

$$X = 39^\circ$$

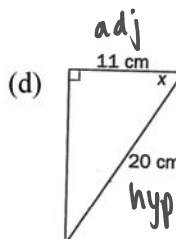


$$\tan X = \frac{6}{8} \quad X = 37^\circ$$



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

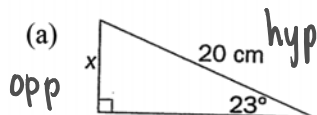
$$X = 50^\circ$$



$$\cos X = \frac{11}{20}$$

$$X = 57^\circ$$

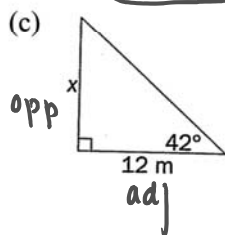
4. Calculate the length of side x to the nearest tenth.



$$20 \cdot \sin 23^\circ = \frac{x}{20} \cdot 20$$

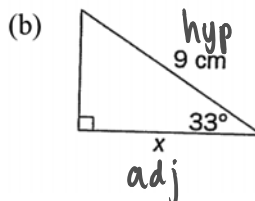
$$x = 20 \sin 23^\circ$$

$$x = 7.8 \text{ cm}$$



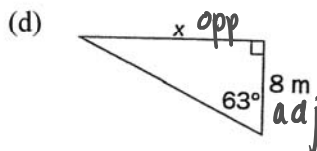
$$12 \cdot \tan 42^\circ = \frac{x}{12} \cdot 12$$

$$x = 10.8 \text{ m}$$



$$9 \cdot \cos 33^\circ = \frac{x}{9} \cdot 9$$

$$x = 7.5 \text{ cm}$$



$$8 \cdot \tan 63^\circ = \frac{x}{8} \cdot 8$$

$$x = 15.7 \text{ m}$$