

M10 - 3.0 - SOH CAH TOA Trigonometry Review

Degree Mode

Choose part of **SOH CAH TOA** that has 2 pieces of info we have, and one we want.

Calculator

$\sin 35 = 0.57$

$$\sin \theta = \frac{\text{Opp}}{\text{Hyp}}$$

$$\cos \theta = \frac{\text{Adj}}{\text{Hyp}}$$

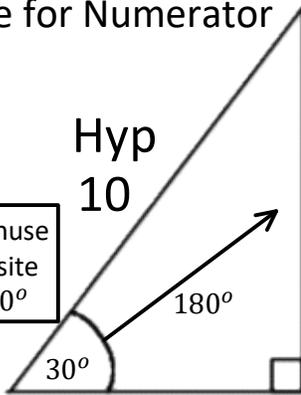
$$\tan \theta = \frac{\text{Opp}}{\text{Adj}}$$

θ is an Angle

Solve for Numerator

①

Hypotenuse is Opposite of the 90°



Opposite is Opposite!

$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

Opp

$$10 \times \sin 30 = \frac{\text{opp}}{10} \times 10$$

$$\text{opp} = 5$$

Check Answer

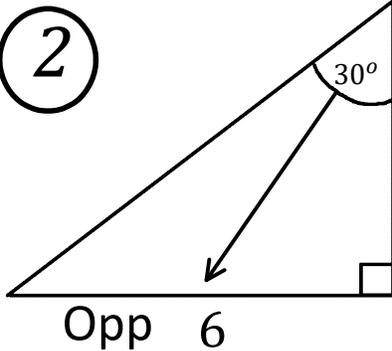
$$\sin 30 = \frac{5}{10} = \frac{1}{2} \checkmark$$

Not to Scale

Draw with a protractor and a ruler!

Solve for Denominator

②



Adjacent is Beside!

$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

Adj

$$\tan 30 = \frac{6}{\text{adj}}$$

$$\text{adj} = \frac{6}{\tan 30}$$

$$\text{adj} = 10.4$$

$\times \text{adj}$
 $\div \tan 30$
Both Sides

$$2 = \frac{6}{3}$$

$$3 = \frac{6}{2}$$

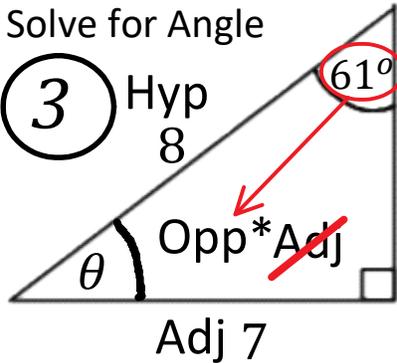
Theory

Check Answer

$$\tan 30 = 0.577 = \frac{6}{10.4} \checkmark$$

Solve for Angle

③



$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\cos \theta = \frac{7}{8}$$

$$\theta = \cos^{-1}(0.875) \quad \text{2nd}$$

$$\theta = 28.96^\circ$$

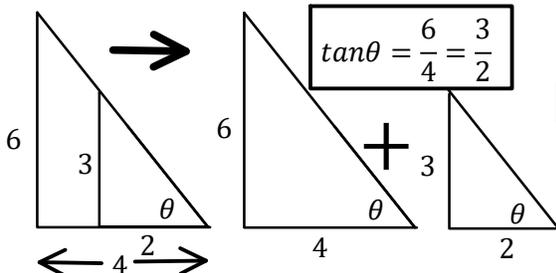
$$90^\circ - 28.96^\circ = 61^\circ$$

$$\frac{7}{8} = 0.875$$

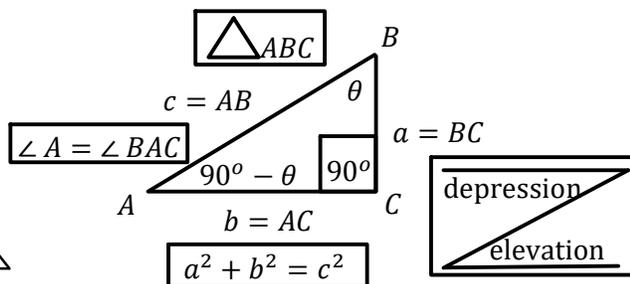
Check Answer

$$\cos 28.96 = 0.875 = \frac{7}{8} \checkmark$$

Similar Triangles



$$\tan \theta = \frac{6}{4} = \frac{3}{2}$$



$$\angle A = \angle BAC$$

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

depression
elevation