

Chapter Two: Trigonometry

$$\text{Sine} = \frac{\text{opposite}}{\text{hypotenuse}}$$

$$\text{Cosine} = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\text{Tangent} = \frac{\text{opposite}}{\text{adjacent}}$$

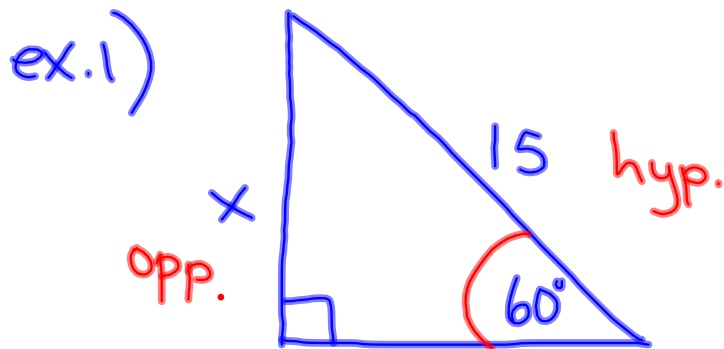
SOH CAH TOA

$$\text{Sin} = \frac{\text{opp}}{\text{hyp.}}$$

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

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

Solving for side measures in right triangles using Trig.



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

* calculators
in Degree
mode

$$\sin 60^\circ = \frac{x}{15}$$

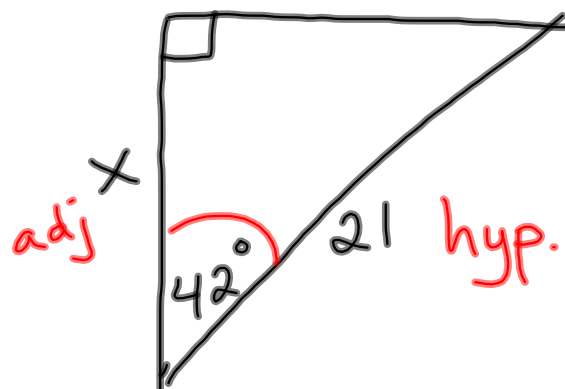
$$\frac{0.8660}{1} = \frac{x}{15}$$

cross multiply

$$15 \times 0.8660 = x$$

$$12.99 = x$$

2.)



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

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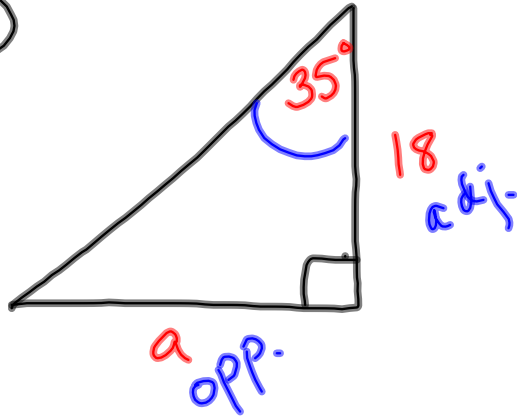
$$\cos 42 = \frac{x}{21}$$

$$0.7431 = \frac{x}{21}$$

$$21 \times 0.7431 = x$$

$$15.61 = x$$

ex.3)



TOA

$$\text{Tan} = \frac{\text{opp}}{\text{adj}}$$

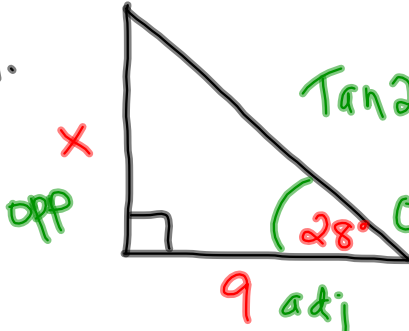
$$\text{Tan } 35^\circ = \frac{a}{18}$$


$$0.7002 = \frac{a}{18}$$

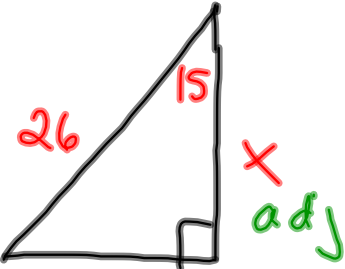
$$18 \times 0.7002 = 12.6$$

v-

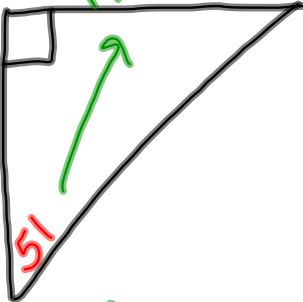
Practice

1.  $\tan 28 = \frac{x}{9}$
 $0.5317 = \frac{x}{9}$
 $x = 4.8$

2.  $\sin 46 = \frac{x}{50}$
 $x = 36$

3.  $\cos 15 = \frac{x}{26}$

$x = 25.1$

4.  $\tan 51 = \frac{x}{12}$

$12(\tan 51) = x = 14.8$