

Try these:

Find the value of theta.

a) $\tan \sigma = 2.3559$ b) $\cos \sigma = 0.8746$

$$\sigma = 67^\circ$$

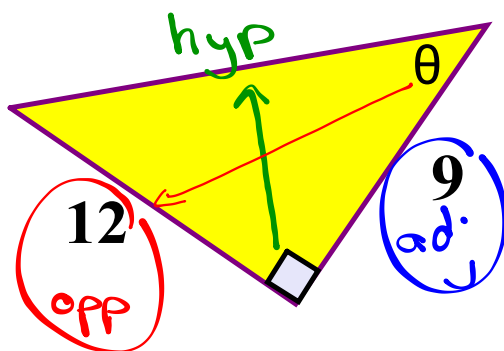
$$\sigma = 29^\circ$$



Finding the Unknown



1. Find the value of theta.



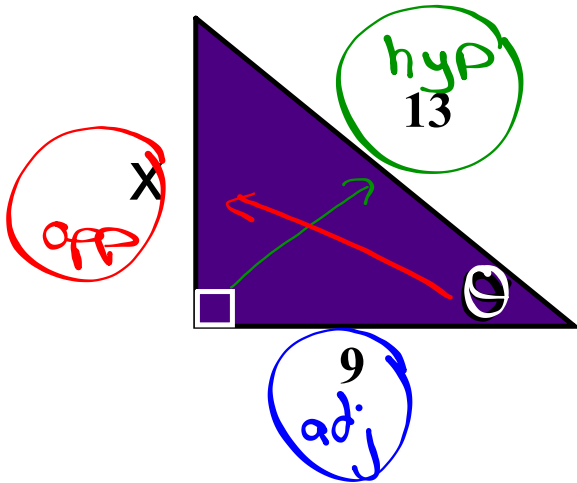
$$\tan \theta = \frac{\text{opp}}{\text{adj}}$$

$$\tan \theta = \frac{12}{9}$$

$$\tan \theta = 1.3333$$

$$\theta = 53^\circ$$

2. a) Using the proper trig ratio, find theta.
b) Find the missing side x.



$$a) \cos \theta = \frac{a}{h}$$

$$\cos \theta = \frac{9}{13}$$

$$\cos \theta = 0.6923$$

$$\theta = 46^\circ$$

b) Find x:

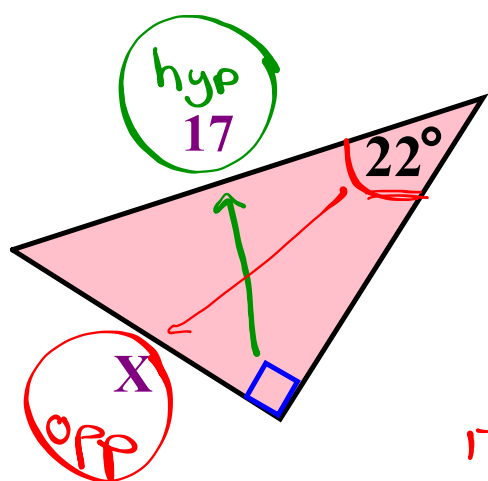
$$a^2 + b^2 = c^2$$

$$(x)^2 + (9)^2 = (13)^2$$

$$x^2 + 81 = 169$$

$$x^2 = 88$$

$$x = 9.3808$$

3. How do we find the missing side ?

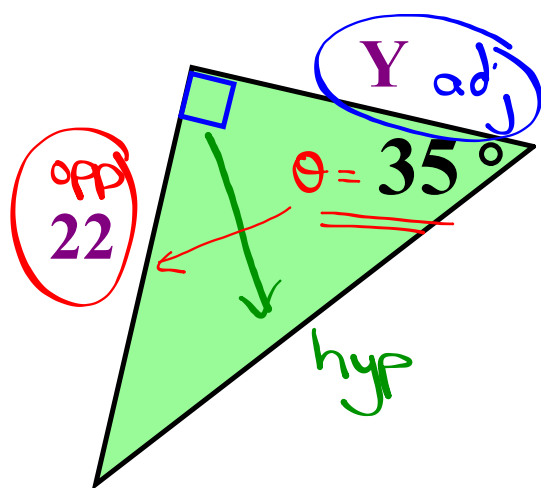
$$\sin \theta = \frac{o}{h}$$

$$\sin 22^\circ = \frac{x}{17}$$

$$17. \quad 0.3746 = \frac{x}{17} \quad \cdot 17$$

$$\boxed{6.4 = x}$$

4. Find the missing side y



$$\tan \theta = \frac{o}{a}$$

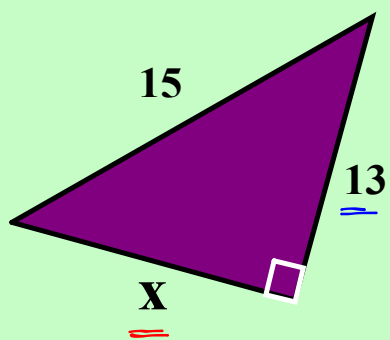
$$\tan 35^\circ = \frac{22}{y}$$

$$y \cdot 0.7002 = \frac{22}{y} \cdot y$$

$$\frac{0.7002y}{0.7002} = \frac{22}{0.7002}$$

$$y = 31.4$$

5. Find the missing side x



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

$$\underline{x^2} + \underline{(13)^2} = \underline{(15)^2}$$

$$x^2 + 169 = 225$$

$$x^2 = 225 - 169$$

$$x^2 = 64$$

$$\sqrt{x^2} = \sqrt{64}$$

$$\boxed{x = 8}$$

Homework