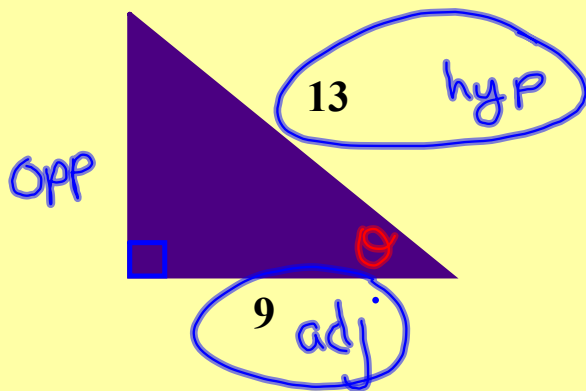




# Finding the Unknown



Using the proper trig ratio, find theta



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

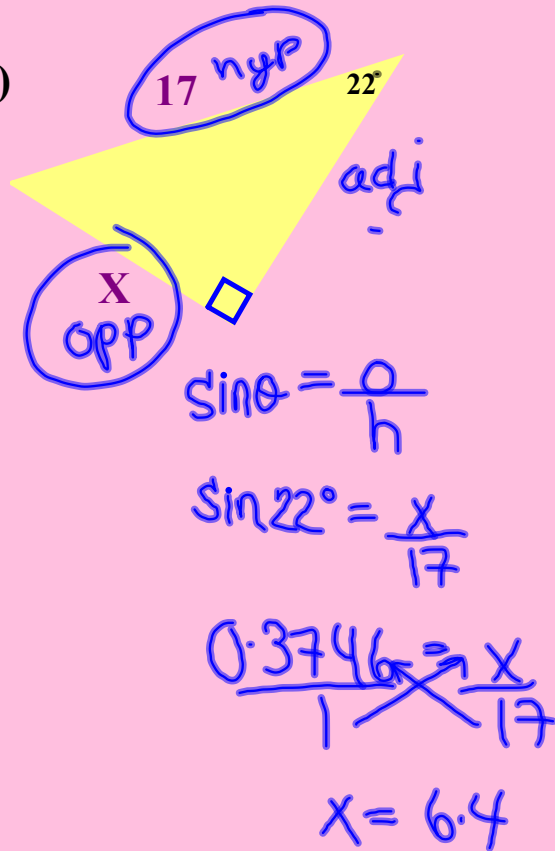
$$\cos \theta = \frac{9}{13}$$

$$\cos \theta = 0.6923$$

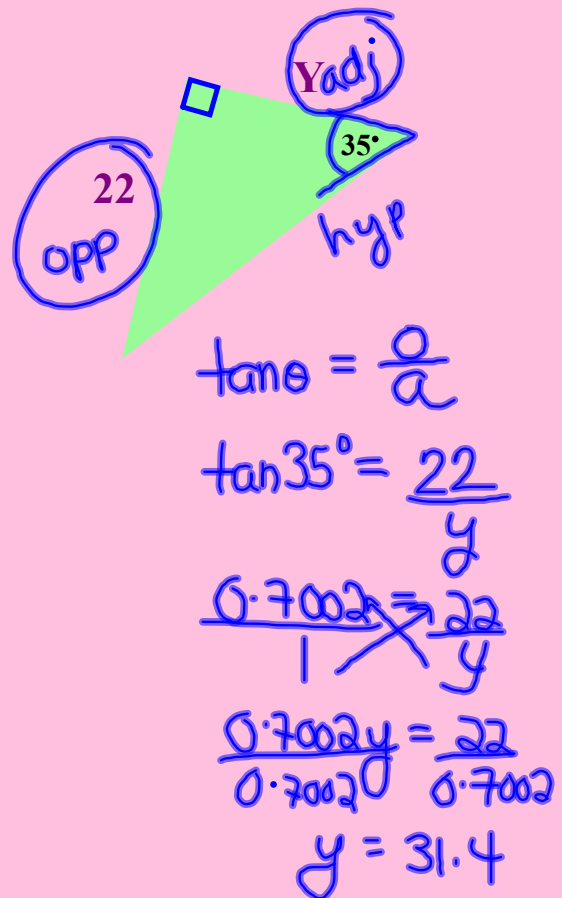
$$\theta = 46^\circ$$

## How do we find the missing side ????

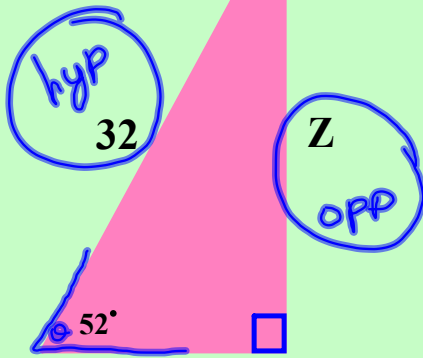
a)



b)

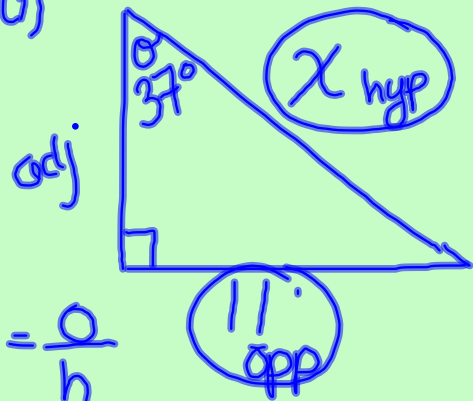


c)

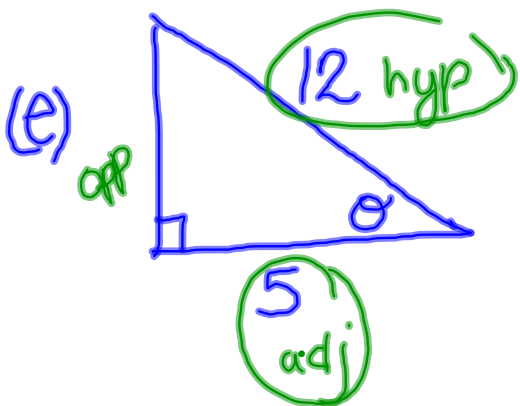


$$\begin{aligned} \sin \theta &= \frac{opp}{hyp} \\ \sin 52^\circ &= \frac{Z}{32} \\ 0.7880 &= \frac{Z}{32} \\ Z &= 25.2 \end{aligned}$$

(d)



$$\begin{aligned} \sin \theta &= \frac{opp}{hyp} \\ \sin 37^\circ &= \frac{11}{X} \\ 0.6018 &= \frac{11}{X} \\ \frac{0.6018 X}{0.6018} &= \frac{11}{0.6018} \\ X &= 18.3 \end{aligned}$$

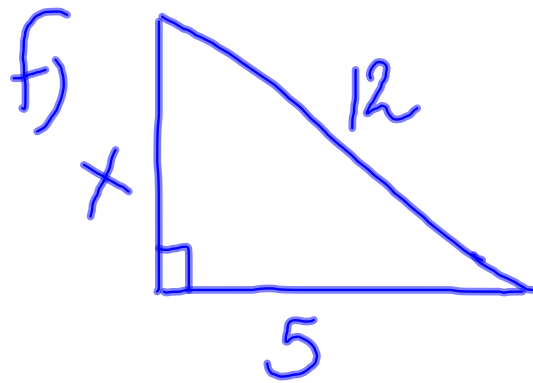


$$\cos \theta = \frac{a}{h}$$

$$\cos \theta = \frac{5}{12}$$

$$\cos \theta = 0.4167$$

$$\theta = 65^\circ$$



$$h^2 = a^2 + b^2$$

$$12^2 = 5^2 + x^2$$

$$5^2 + x^2 = 12^2$$

$$\textcircled{25} + x^2 = 144 \rightarrow$$

$$x^2 = 119$$

$$x = 10.9$$