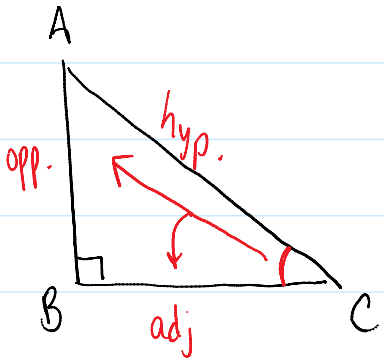
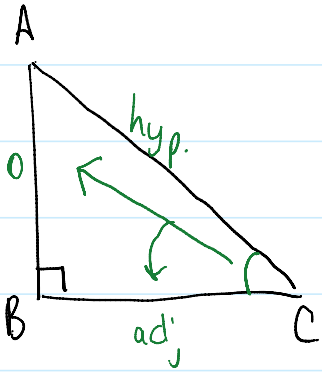
2.5 Using Sine & Cosine Ratios to Calculate Lengths

September-30-13
11:04 AM

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



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



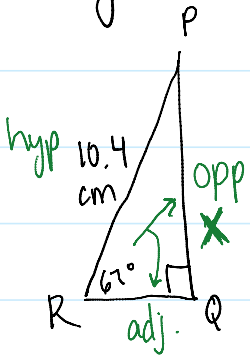
$\text{Sin} \angle C = \frac{o}{h}$

$\text{Cos} \angle C = \frac{a}{h}$

Sin or Cos ratios or angles + length of 1 side $\Rightarrow$ length of unknown side

Ex. #1

Length of PQ?



$\text{Sin } 67° = \frac{o}{h}$

$\frac{\text{Sin } 67°}{1} = \frac{X}{10.4}$

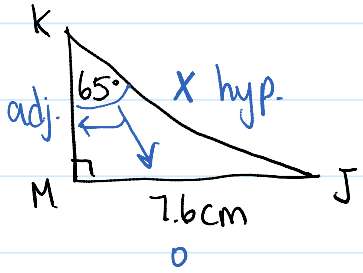
$(10.4)(\text{Sin } 67°) = X$

$9.57_{cm} = X$

Ex. #2

Ex. #2

Length of JK?



$$\sin 65^\circ = \frac{O}{h} = \frac{7.6}{x}$$

$$\frac{\sin 65}{1} = \frac{7.6}{x}$$

$$\frac{x(\sin 65^\circ)}{\sin 65^\circ} = \frac{7.6}{(\sin 65^\circ)}$$

$$x = 8.39 \text{ cm}$$

Exercises pg. 101 #3-6, 12