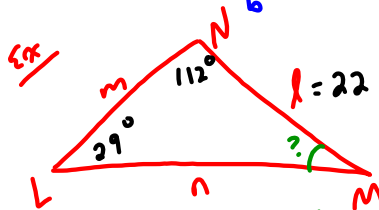


5.6 Law of Sines & Area

Law of Sines

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$



$$\begin{aligned} \angle M &= 180 - (112 + 29) \\ \angle M &= 39^\circ \end{aligned}$$

$$\frac{\sin 29}{22} \times \frac{\sin 112}{n}$$

$$n \sin 29 = \frac{22 \sin 112}{\sin 29}$$

$$n \approx 42.07$$

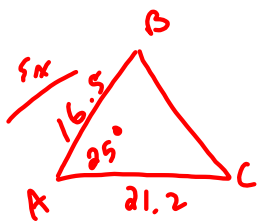
$$\frac{\sin 29}{22} \times \frac{\sin 39}{m}$$

$$m \sin 29 = \frac{22 \sin 39}{\sin 29}$$

$$m \approx 28.56$$

Area of  $\Delta$ 's

$$A = \frac{1}{2} ab \sin C \rightarrow A = \frac{1}{2} bc \sin A \rightarrow A = \frac{1}{2} ac \sin B$$



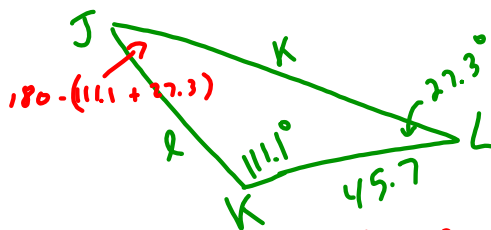
SAS

$$A = \frac{1}{2} (16.5)(21.2) \sin 25$$

$$A \approx 73.92 \text{ units}^2$$

$$A = \frac{1}{2} a^2 \frac{\sin B \sin C}{\sin A}$$

AAS or ASA



$$A = \frac{1}{2} 49.7^2 \frac{\sin 111.1 \sin 27.3}{\sin 41.6}$$

$$A \approx 673.01 \text{ units}^2$$