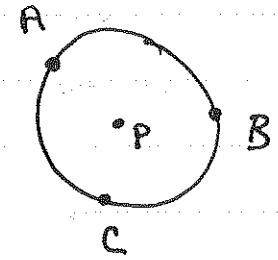
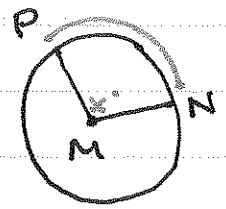
10.6 Circles and Arcs

Major arc: arc larger than semicircle; $\overset{\frown}{CAB}$

Minor arc: arc smaller than a semicircle; $\overset{\frown}{CB}$





Circle M: a circle is named by its center

$\overset{\frown}{PN} = m\angle PMN$

The arc = the central angle

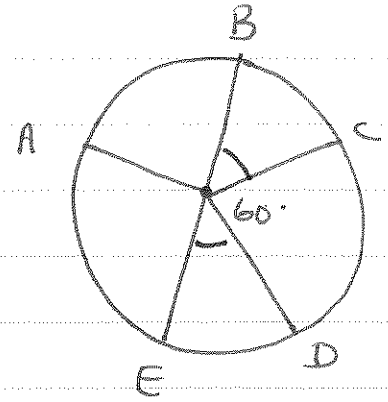
Arc length

$$\frac{x}{2\pi r} = \frac{\text{central angle}}{360^\circ}$$

Ex.

$\overset{\frown}{EAB} =$

$\overset{\frown}{ED} =$



Ex. Through how many degrees does a minute hand move in each time interval?

a. 10 minutes

$$\frac{10}{60} = \frac{x}{360} \rightarrow x = 60^\circ$$

b. 25 minutes

$$\frac{25}{60} = \frac{x}{360} \rightarrow x = 150^\circ$$

Ex. Through how many degrees does an hour hand move in each time interval?

$\frac{360}{12} = 30^\circ$ in an hour

a. 10 minutes

$$\frac{10}{60} = \frac{x}{30}$$

$x = 5^\circ$

b. 25 minutes

$$\frac{25}{60} = \frac{x}{30}$$

$x = 12.5^\circ$