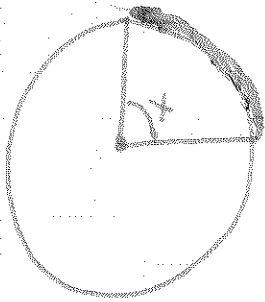
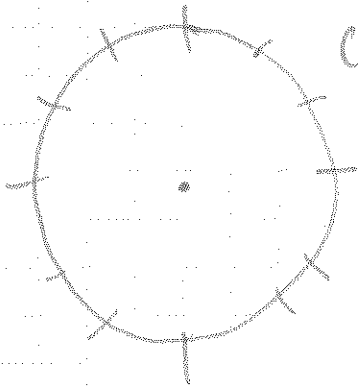


Arc Length



$x^\circ \rightarrow$ arc measure (in degrees)
 arc length \rightarrow distance (in, cm...)

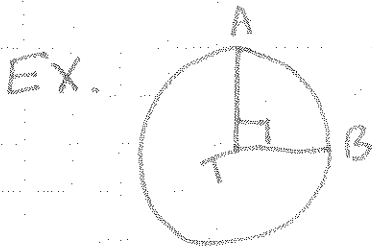


Clock total 360° in the whole clock

$$12:00 \rightarrow 1:00 \quad \frac{360^\circ}{12} = 30^\circ$$

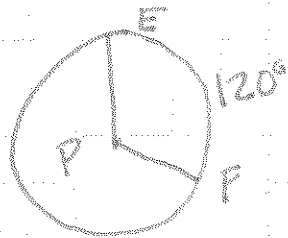
\nearrow fraction of the circle

Arc length \rightarrow fraction of the circumference



\widehat{AB} is what fraction of T

$$\frac{90^\circ}{360^\circ} = \frac{1}{4}$$

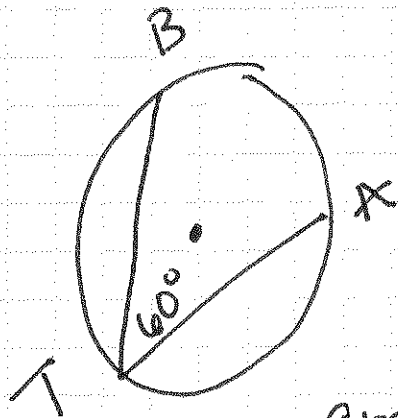


\widehat{EF} is what fraction of P?

$$\frac{120^\circ}{360^\circ} = \frac{1}{3}$$

Arc Length = fraction \cdot Circumference

$$\frac{x^\circ}{360^\circ} \cdot d = \pi \quad \text{or} \quad \frac{x^\circ}{360^\circ} \cdot 2r\pi$$



$$r = 24 \text{ cm}$$

find \widehat{AB}

$$\text{arc } \widehat{AB} = 60^\circ \times 2 = 120^\circ$$

$$\text{Arc Length} = \frac{120^\circ}{360^\circ} \cdot 2(24)\pi$$

$$\text{Exact} = \frac{1}{3} \cdot 48\pi = 16\pi \text{ cm}$$

$$\text{approximation} = 50.265 \text{ cm}$$

Exact
Leave π

HW 351: 1-10