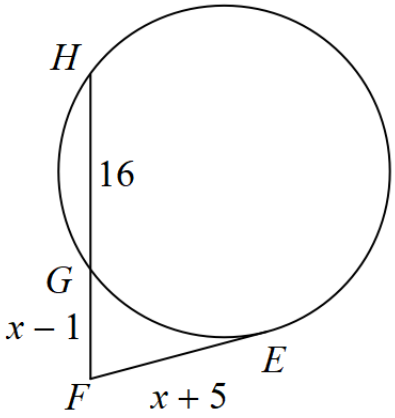
03/26

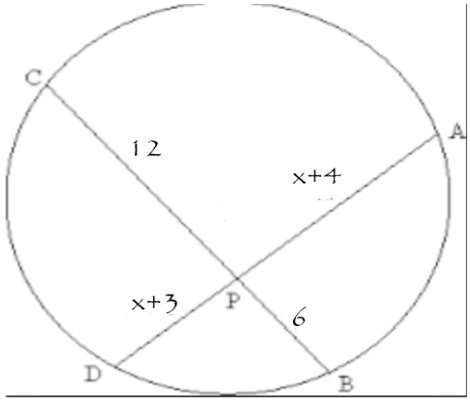
Tuesday Warm-up

1. Find EF



Find x

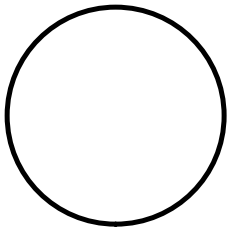
2.



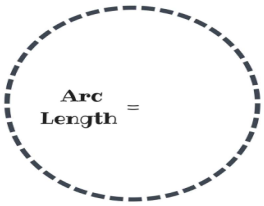
Circumference Review

Formula = 2* π * r

Formula = d* π

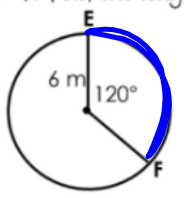


Arc Length



$$\frac{2\pi r\theta}{360}$$ ← measure of arc or angle

EX 1: Find the length of $\overset{\frown}{EF}$.



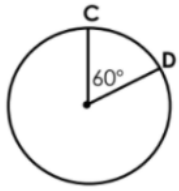
$EF = \frac{2\pi r\theta}{360}$

$EF = \frac{2\pi(6)(120)}{360}$

$EF = 4\pi$ (exact)

$EF = 12.56$ (Approx)

EX 2: The diameter is 24 cm. Find the length of $\overset{\frown}{CD}$.



$d = 24$

$r = 12$

$CD = \frac{2\pi r\theta}{360}$

$CD = \frac{2\pi(12)(60)}{360}$

$CD = 4\pi$ (exact)

$CD = 12.56$ cm (Approx)

EX 3: A circle has an arc whose measure is 80° and whose arc length is 276.46π in. What is the diameter of the circle?

$276.46\pi = \frac{2\pi r(80)}{360}$

$360 \cdot 276.46\pi = \frac{160\pi r}{360} \cdot 360$

$\frac{99{,}525.6\pi}{160\pi} = \frac{160\pi r}{160\pi}$

$622.84 = r$

$1244.68 = d$

EX 4: Find measure of central angle of an arc if its length is 43.98π and the radius is 28

$43.98\pi = \frac{2 \cdot \pi \cdot 28 \cdot \theta}{360}$

$360 \cdot 43.98\pi = \frac{56\pi \cdot \theta}{360} \cdot 360$

$\frac{15832.8\pi}{56\pi} = \frac{56\pi\theta}{56\pi}$

$282.7 = \theta$