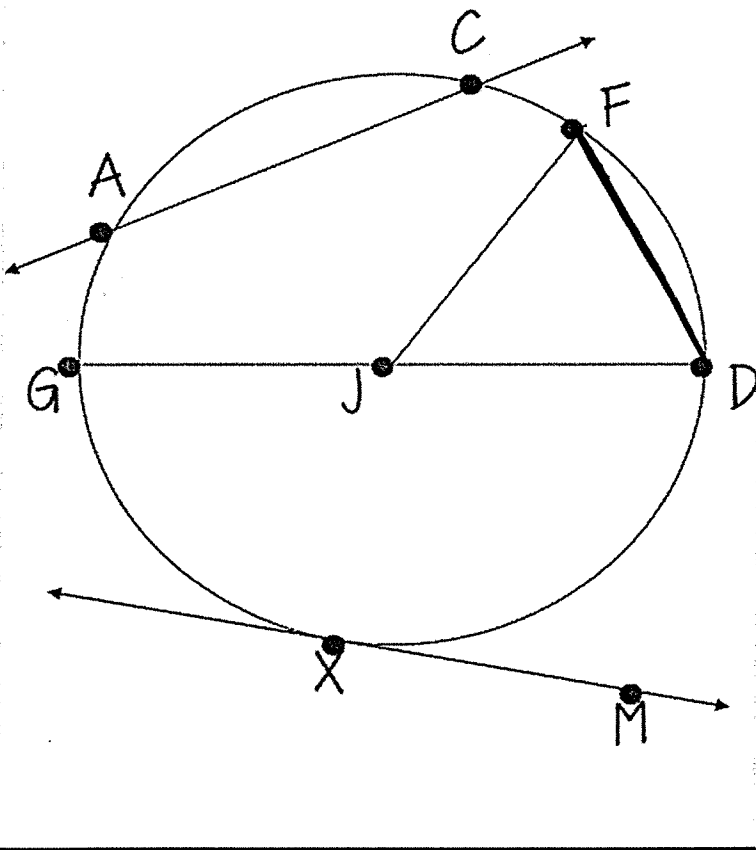


Circles

Name: Key

"Putting it all together"

1- Parts of a circle:



$\overline{AC} = \underline{\text{Chord}}$

$JF = \underline{\text{Radius}}$

$\overleftrightarrow{XM} = \underline{\text{Tangent}}$

$\odot J = \underline{\text{Circle}}$

$\widehat{FD} = \underline{\text{Arc (Minor)}}$

$\widehat{FC} = \underline{\text{Major Arc}}$

$\overleftrightarrow{AC} = \underline{\text{Secant}}$

$\angle FJG = \underline{\text{Central angle}}$

$\overline{FD} = \underline{\text{Chord}}$

$\angle JFD = \underline{\text{Inscribed angle.}}$

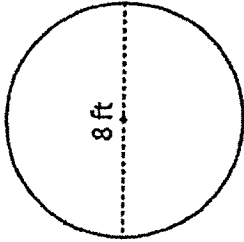
$\widehat{DCG} = \underline{\text{Semi-Circle}}$

$n\angle FJD = m \widehat{FD}$

$n\angle FDG = m \frac{\widehat{FD}}{2}$

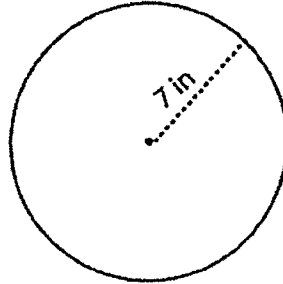
2- Area and Circumference:

1)



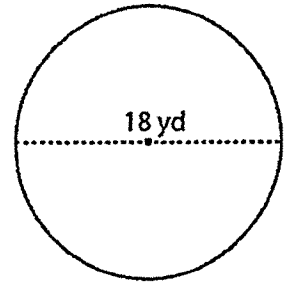
$$\begin{aligned} \text{Radius} &= \underline{4 \text{ ft}} \\ \text{Diameter} &= \underline{8 \text{ ft}} \\ \text{Area} &= \pi r^2 = \underline{16\pi \text{ ft}^2} \\ \text{Circumference} &= \underline{8\pi \text{ ft}} \end{aligned}$$

2)



$$\begin{aligned} \text{Radius} &= \underline{7 \text{ in}} \\ \text{Diameter} &= \underline{14 \text{ in}} \\ \text{Area} &= \underline{49\pi \text{ in}^2} \\ \text{Circumference} &= \underline{14\pi \text{ in}} \end{aligned}$$

3)

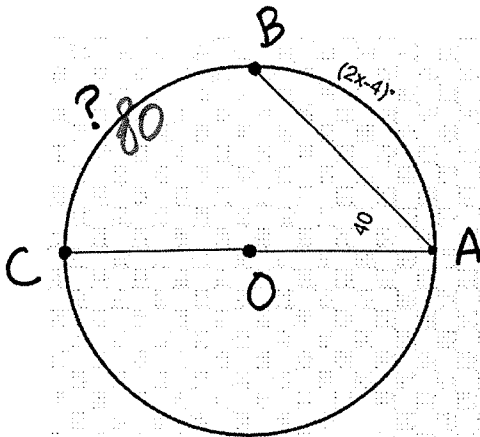


$$\begin{aligned} \text{Radius} &= \underline{9 \text{ yd}} \\ \text{Diameter} &= \underline{18 \text{ yd}} \\ \text{Area} &= \underline{81\pi \text{ yd}^2} \\ \text{Circumference} &= \underline{18\pi \text{ yd}} \end{aligned}$$

3- Central Angles, Inscribed Angles, and Arc measures:

1-

Solve for x

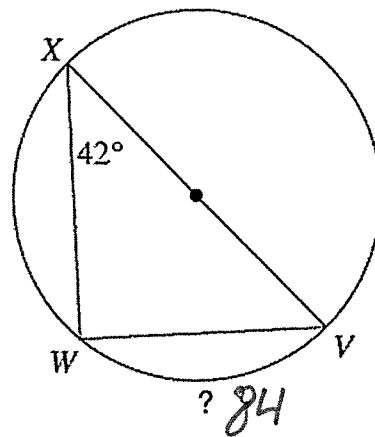


$$180 + 80 + 2x - 4 = 360^\circ$$

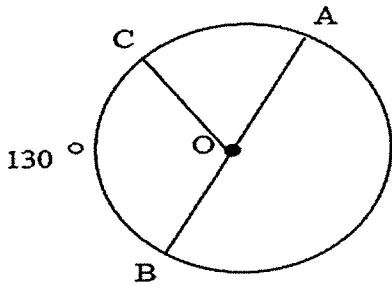
$$\frac{2x = 104}{2} \quad \frac{2}{2}$$

$$x = 52$$

2-



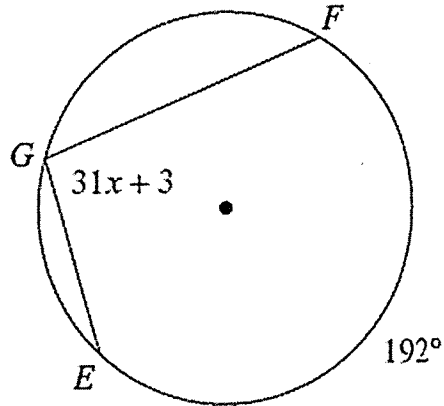
3-



find $m\widehat{AOB}$ 180°

find $m\angle COA$ 50°

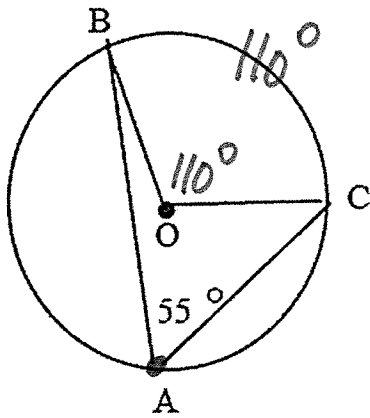
4-



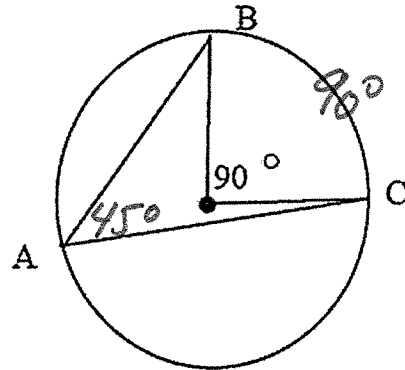
Find x $31x + 3 = 96$

$$\frac{31x}{31} = \frac{93}{31} \quad \boxed{x=3}$$

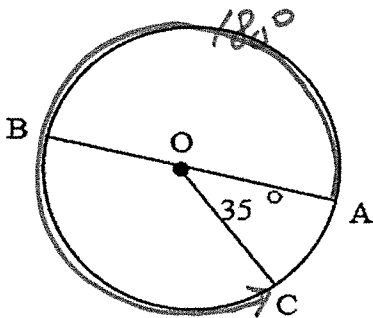
5. Find $m\angle BOC$



6. Find $m\angle A$



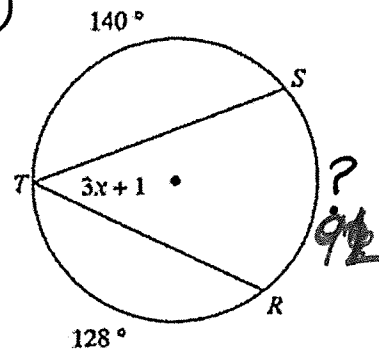
7-



find $m\widehat{CAB}$ 215°

find $m\widehat{ABC}$ $145^\circ + 180^\circ$
 325°

8)

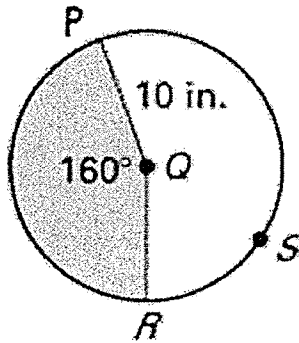


$3x + 1 = 46$

$$\frac{3x}{3} = \frac{45}{3} \quad \boxed{x=15}$$

4. Arc length and sector Area:

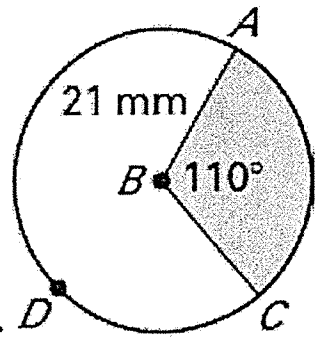
1. Find the area of the sectors formed by $\angle PQR$



$$\frac{160^\circ}{360^\circ} \cdot 100(\pi)$$

$$44\pi \text{ in}^2$$

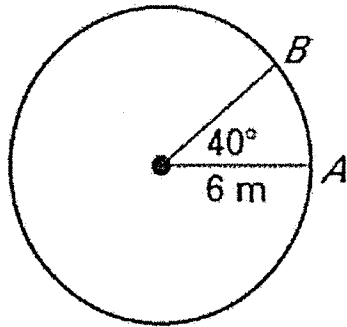
2. Find the areas of the sectors formed by $\angle ABC$



$$\frac{110^\circ}{360^\circ} \cdot 441\pi$$

$$122.5\pi \text{ mm}^2$$

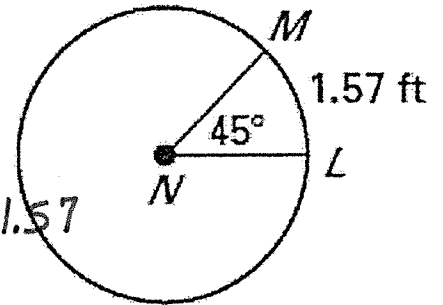
3. Find the length of \widehat{AB} :



$$\frac{40^\circ}{360^\circ} \cdot 12\pi$$

$$1.3\pi \text{ m}$$

4. Find the radius:



$$\frac{45^\circ}{360^\circ} 2\pi r = 1.57$$

$$\frac{0.785 r}{0.785} = \frac{1.57}{0.785}$$

$$r = 2 \text{ ft}$$

5. The central angle of a sector is 60° and the area of the circle is 144π . What is the area of the sector?

$$\frac{60^\circ}{360^\circ} \cdot 144\pi = 24\pi$$