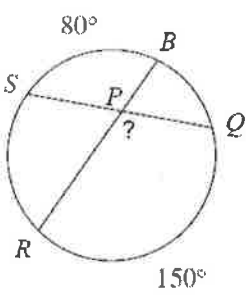
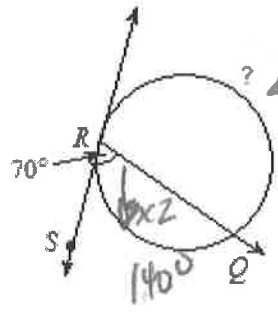
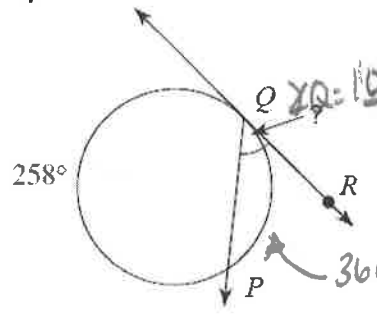


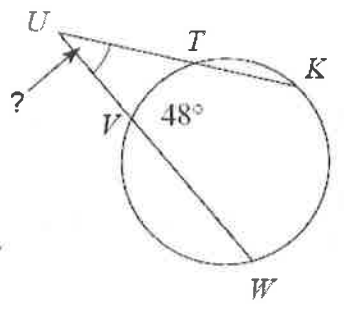
### Angles Homework

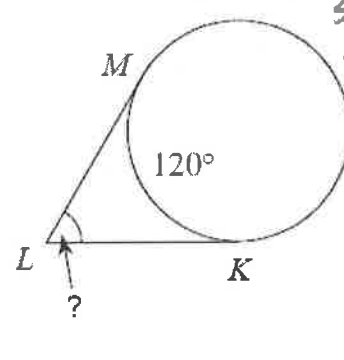
Find the measure of the arc or angle indicated:

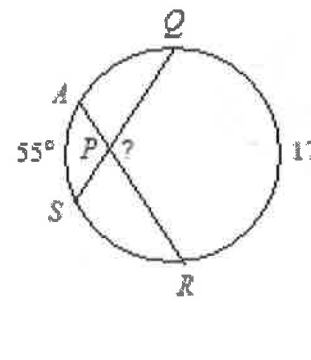
1)   $\angle P = \frac{80 + 150}{2} = \frac{230}{2} = 115^\circ$

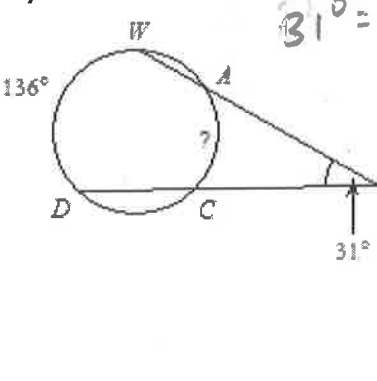
2)   $\angle R = 360 - 140 = 220^\circ$

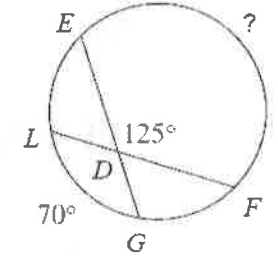
3)   $\angle Q = \frac{102}{2} = 51^\circ$   
 $360 - 258 = 102^\circ$

4)   $\angle U = \frac{122 - 48}{2} = 37^\circ$

5)   $360 - 120 = 240^\circ$   
 $\angle L = \frac{240 - 120}{2} = \frac{120}{2} = 60^\circ$

6)   $\angle P = \frac{55 + 175}{2} = \frac{230}{2} = 115^\circ$

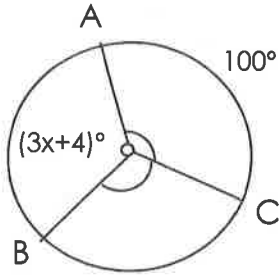
7)   $31^\circ = \frac{136 - \widehat{AC}}{2}$   
 $62 = 136 - \widehat{AC}$   
 $62 - 136 = -\widehat{AC}$   
 $-74 = -\widehat{AC}$   
 $\widehat{AC} = 74^\circ$

8)   $125 = \frac{70 + \widehat{EF}}{2}$   
 $250 = 70 + \widehat{EF}$   
 $\widehat{EF} = 180^\circ$

**Challenge Problems:**

Find x.

9)



$$\begin{array}{r} 360 \\ -200 \\ \hline 160 \end{array}$$

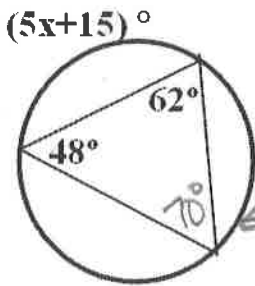
$$3x + 4 = 160$$

$$3x = 156$$

$$x = 52^\circ$$

$$3(52) + 4 = 160$$

10)



$$180 - 62 - 62$$

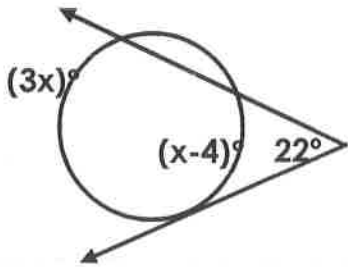
$$2(70) = 5x + 15$$

$$140 = 5x + 15$$

$$\begin{array}{r} -15 \\ \hline 125 = 5x \\ \hline 25 \end{array}$$

$$x = 25^\circ$$

11)



$$22 = \frac{3x - (x - 4)}{2}$$

$$22 = \frac{3x - x + 4}{2}$$

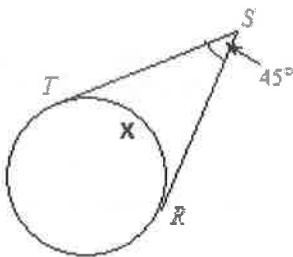
$$2 \cdot 22 = \frac{2x + 4}{2}$$

$$44 = 2x + 4$$

$$2x = 40$$

$$x = 20$$

12)



$$45 = \frac{360 - x - x}{2}$$

$$2 \cdot 45 = \frac{360 - 2x}{2}$$

$$90 = 360 - 2x$$

$$\begin{array}{r} -270 = -2x \\ \hline -2 \end{array}$$

$$x = 135^\circ$$