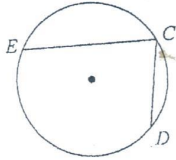


Measures of Angles in a Circle

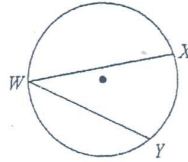
State if each angle is an inscribed angle. If it is, name the angle and the intercepted arc.

1)



yes,  $\widehat{ED}$

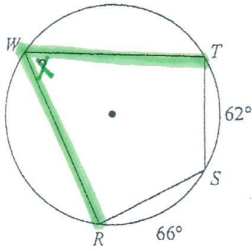
2)



yes,  $\widehat{WY}$

Find the measure of the arc or angle indicated.

3)

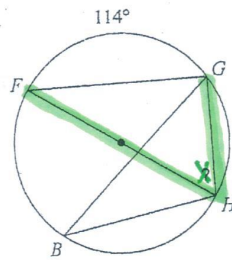


$$X = (62^\circ + 66^\circ) \cdot \frac{1}{2}$$

$$X = (128^\circ) \cdot \frac{1}{2}$$

$$X = 64$$

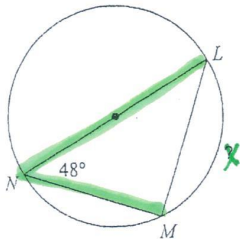
4)



$$X = \frac{1}{2}(114)$$

$$X = 57^\circ$$

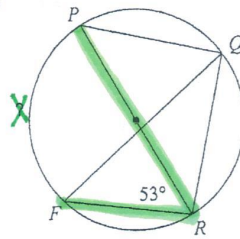
5)



$$X = 2(48)$$

$$X = 96^\circ$$

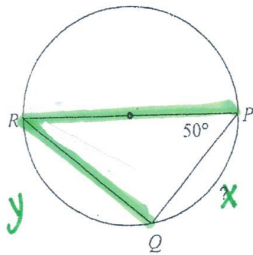
6)



$$X = 2(53)$$

$$X = 106^\circ$$

7)



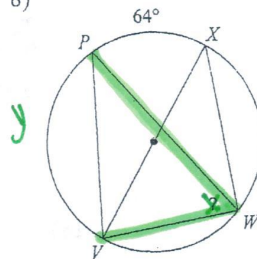
$$y = 2(50)$$

$$y = 100$$

$$x + y = 180^\circ$$

$$x = 80^\circ$$

8)



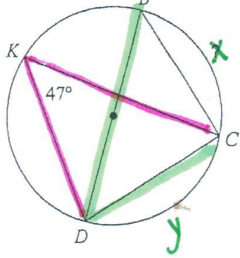
$$y + 64 = 180$$

$$y = 116^\circ$$

$$x = \frac{1}{2}(116)$$

$$x = 58^\circ$$

9)



$$47 = \frac{1}{2}y$$

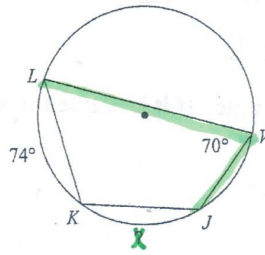
$$y = 94$$

$$x + y = 180$$

$$x + 94 = 180$$

$$x = 86^\circ$$

10)



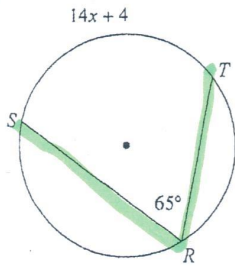
$$2 \cdot 70 = \frac{1}{2}(74 + x)$$

$$140 = 74 + x$$

$$x = 66^\circ$$

Solve for x.

11)



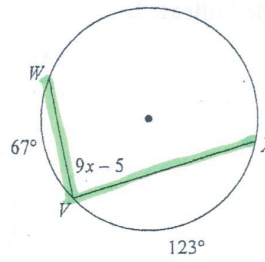
$$65 = \frac{1}{2}(14x + 4)$$

$$65 = 7x + 2$$

$$63 = 7x$$

$$x = 9^\circ$$

12)



$$9x - 5 = \frac{1}{2}(170)$$

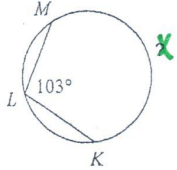
$$9x - 5 = 85$$

$$9x = 90$$

$$x = 10^\circ$$

Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

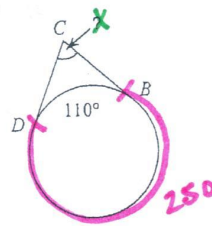
13)



$$103 = \frac{1}{2}(x)$$

$$x = 206^\circ$$

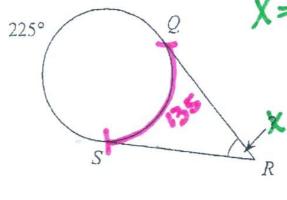
14)



$$x = \frac{1}{2}(250 - 110)$$

$$x = 70^\circ$$

15)

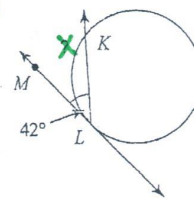


$$x = \frac{1}{2}(225 - 135)$$

$$x = \frac{1}{2}(90)$$

$$x = 45^\circ$$

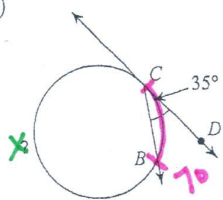
16)



$$\frac{1}{2}x = 42$$

$$x = 84^\circ$$

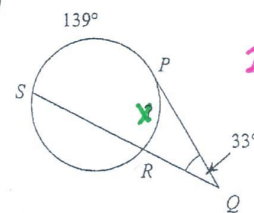
17)



$$x = 360 - 70$$

$$x = 290^\circ$$

18)

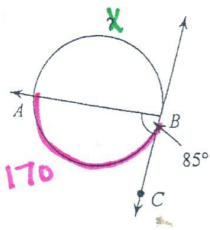


$$2 \cdot 33 = \frac{1}{2}(139 - x)$$

$$66 = 139 - x$$

$$x = 73^\circ$$

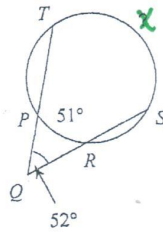
19)



$$X = 360 - 170$$

$$X = 190^\circ$$

20)

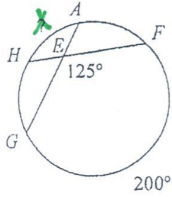
\* Intersects outside, so sub!

$$2 \cdot 52 = \frac{1}{2}(X - 51) \cdot 2$$

$$104 = X - 51$$

$$X = 155^\circ$$

21)

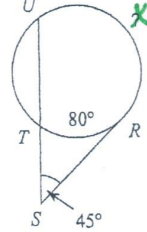


$$2 \cdot 125 = \frac{1}{2}(200 + X) \cdot 2$$

$$250 = 200 + X$$

$$X = 50^\circ$$

22)



$$2 \cdot 45 = \frac{1}{2}(X - 80) \cdot 2$$

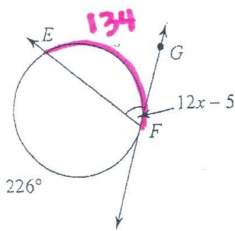
$$90 = X - 80$$

$$X = 170^\circ$$

\* Intersects inside, so add!

Solve for x. Assume that lines which appear tangent are tangent.

23)



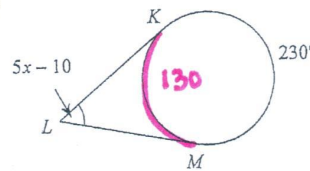
$$12x - 5 = \frac{1}{2}(134)$$

$$12x - 5 = 67$$

$$12x = 72$$

$$X = 6^\circ$$

24)



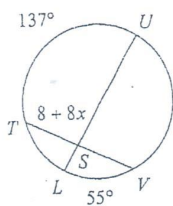
$$5x - 10 = \frac{1}{2}(230 - 130)$$

$$5x - 10 = 50$$

$$5x = 60$$

$$X = 12^\circ$$

25)



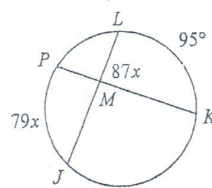
$$8 + 8x = \frac{1}{2}(137 + 55)$$

$$8 + 8x = 96$$

$$8x = 88$$

$$X = 11^\circ$$

26)



$$2 \cdot 87x = \frac{1}{2}(95 + 79x) \cdot 2$$

$$174x = 95 + 79x$$

$$95x = 95$$

$$X = 1^\circ$$