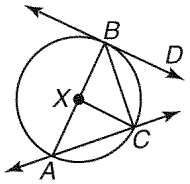
Unit 11: Circles Test Review

1. **Use the figure.**



Name the circle.

Name a radius of the circle.

Name the diameter of the circle.

Name a chord.

Name a tangent.

Name a secant.

2. Find the exact circumference and area given that:

A. radius= 4cm
C =

A =

B. diameter= 12in
C =

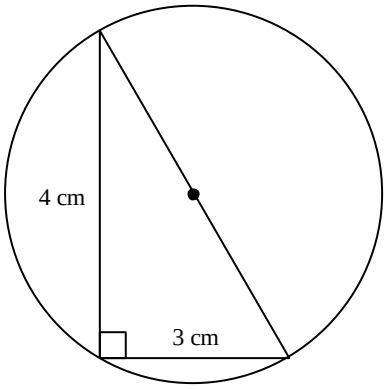
A =

3. The wheels on Elliot's truck each have a circumference of 22π inches. Determine the radius of each wheel.Determine the area of the wheel.

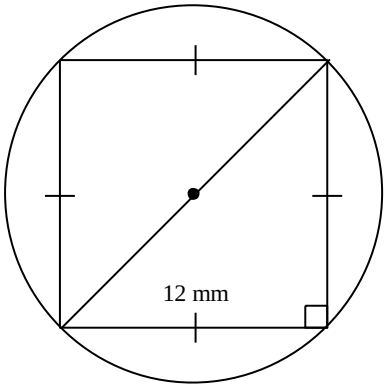
4. The diameter of a circular swimming pool is 15 feet. Find the exact circumference and area.

5. Given that the circumference is 20π km, find the exact area.

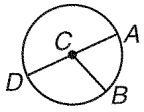
6.Find the exact circumference of the circle.



7. Find the exact circumference of the circle.



8. In $\odot C$, $m\overset{\frown}{AB} = 72$. Assume all lines which appear to be diameters are actual diameters.



Find:

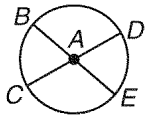
m<ACD=_____

m<BCD=_____

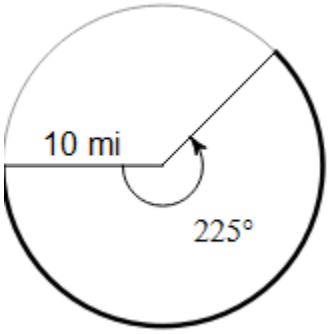
$m\overset{\frown}{BD}$=_____

$m\overset{\frown}{ABD}$=_____

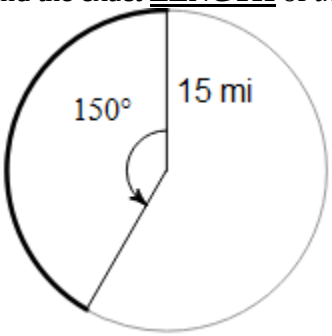
9.In $\odot A$, $m\angle BAD = 110$. Find $m\overset{\frown}{DE}$.



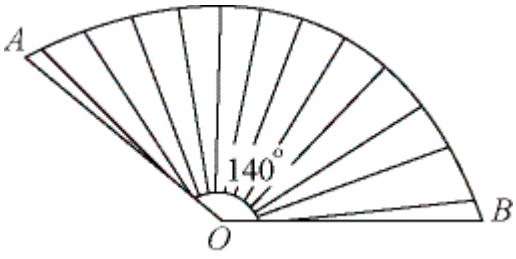
10. Find the exact **LENGTH** of *the arc.*



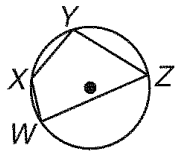
11. Find the exact **LENGTH** of *the arc.*



12. The figure represents a Japanese fan of 32 cm radius. Find the length of the $\overset{\frown}{AB}$. Round to the nearest hundredth. Keep in terms of pi.



13.If $m\angle X = 126$ and m<W= 57, find:



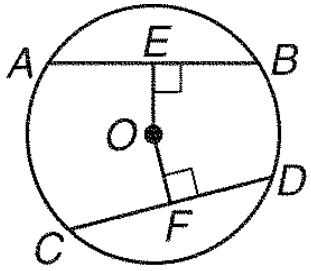
m< Z=_____

m<Y=_____

m$\overset{\frown}{WXY}$=_____

m$\overset{\frown}{WZY}$=_____

14. In $\odot O$, $AB = 12$ centimeters, $OE = 4$ centimeters, $OF = 4$ centimeters, and m$\overset{\frown}{CD}$ = 123°. Find *CF*. Find the radius. Find m$\overset{\frown}{AB}$

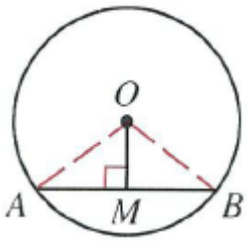


CF=_____

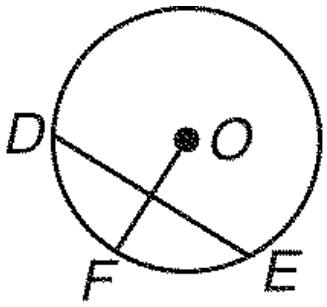
radius=_____

m$\overset{\frown}{AB}$=_____

15. In $\odot O$, $AM = -2x + 37$ and MB = 6x + 5. Find x.



16.If $DE = 12$ inches, OF = 10 inches, and OF is perpendicular to DE



A. Find the distance from the center to the chord and the distance from the chord to Point F.

_____ inches from center to chord

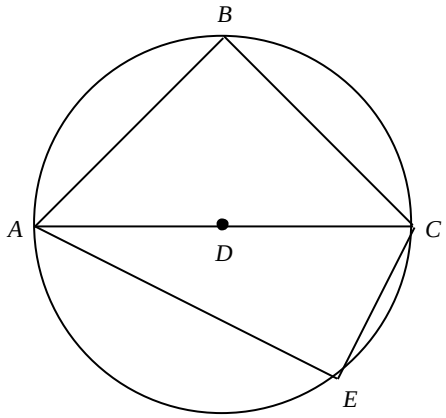
_____ inches from chord to point F.

B. If $m\overset{\frown}{DF}=63°$, what is $m\overset{\frown}{FE}$?

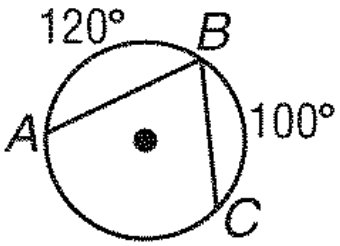
17. Chords XY and WV are equidistant from the center of $\odot O$. If $XY = 2x + 30$ and $WV = 5x - 12$, find x.

18. Find the radius of a circle if a 48-meter chord is 7 meters from the center. Draw it!

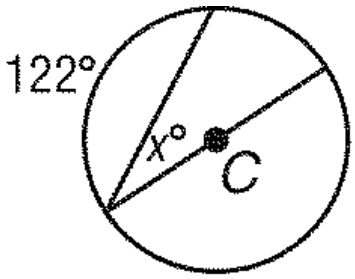
19.In $\odot D$, $\overline{AB} \cong \overline{CB}$ and m arc $CE = 50$. Find $m\angle BCE$.



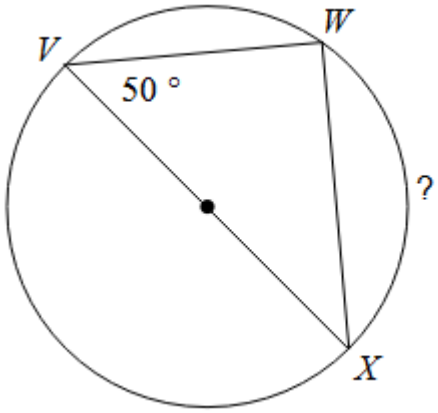
20. a.) Find $m\angle ABC$.



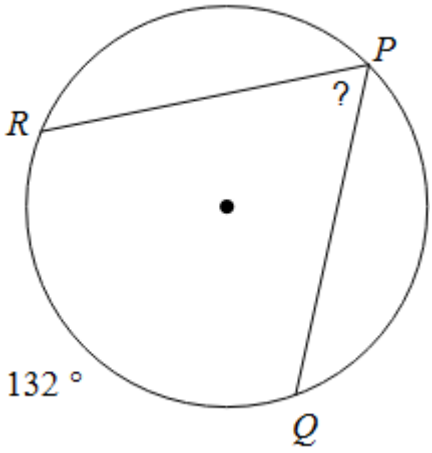
b.) Find x.



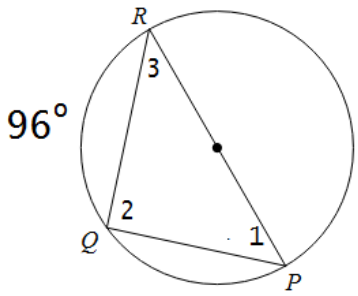
c.) Find $m\overset{\frown}{WX}$,



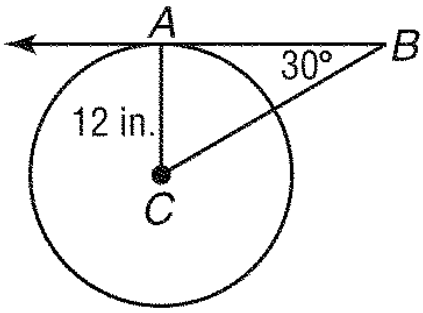
d.) Find $m\angle RPQ$.



21.Find the measure of each angle. $m\angle 1 =$_____ $m\angle 2 =$_____ $m\angle 3 =$_____

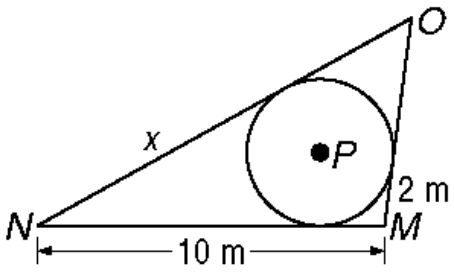


22. If *AB* is tangent to ⊙*C* at *A*, find *BC* and *AB*. *(Use exact values)*

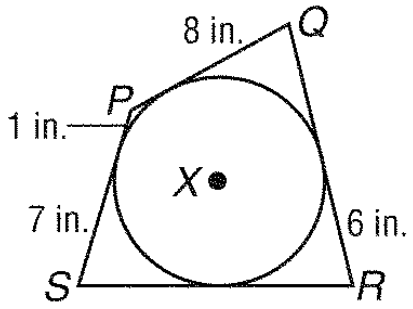


BC=_____ AB = _____

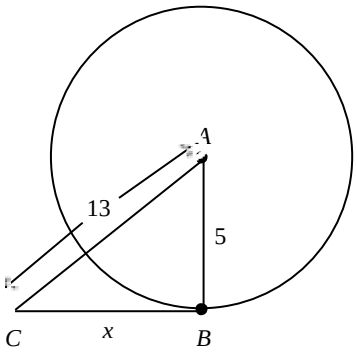
23. a)If *MN*, *NO*, and *MO* are tangent to ⊙*P*, find *x*. *RS*.



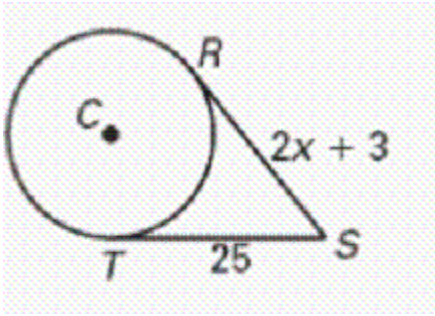
b) *PQ*, *QR*, *RS*, and *SP* are tangent to ⊙*X*. Find



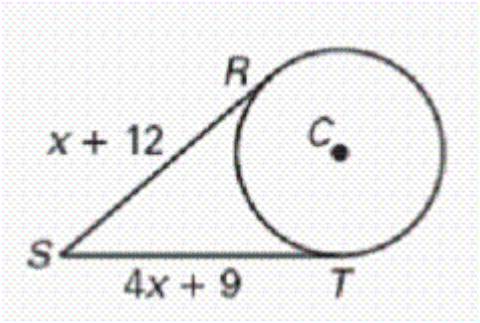
24.If x is 12, is BC tangent to the circle? Explain your answer.



25. Find x.

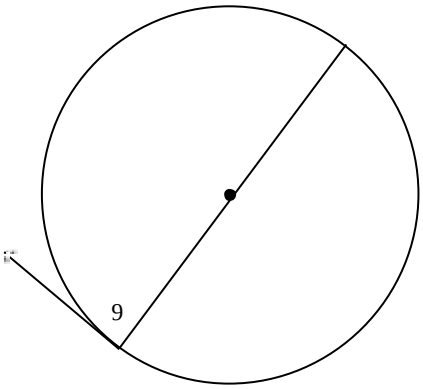


26. Find x.

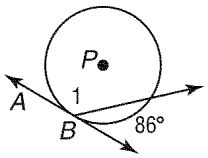


Find the measure of the numbered angle.

27.

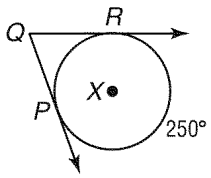


____ 28. If $\overleftrightarrow{AB}$ is tangent to $\odot P$ at B, find $m\angle 1$.



a. 43
b. 86
c. 137
d. 274

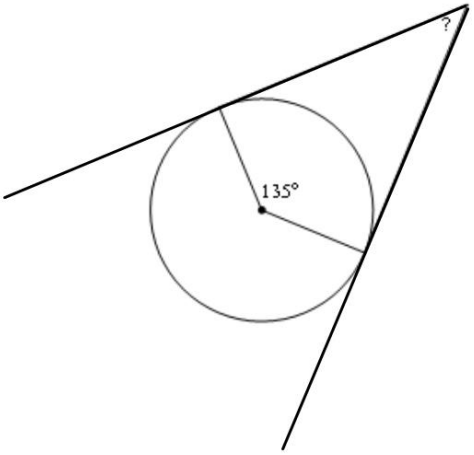
____ 29. Find $m\angle PQR$ if $\overrightarrow{QP}$ and $\overrightarrow{QR}$ are tangent to $\odot X$.



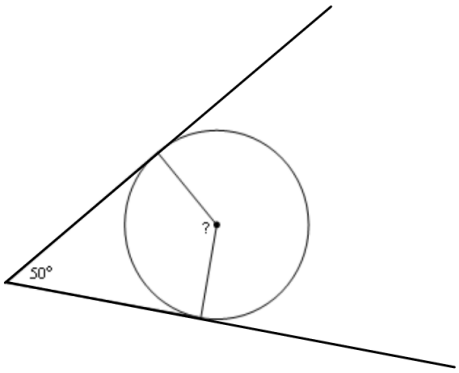
a. 70
b. 110
c. 125
d. 140

30.Find the missing angles. Assume the lines that appear to be tangent are tangent.

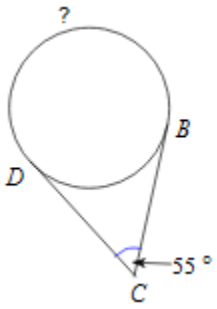
a)



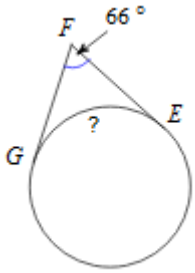
b)



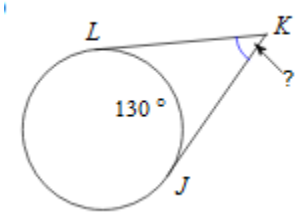
c.)



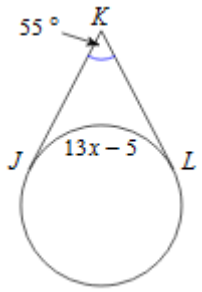
d.)



e.)



f.) Find x.



____ 31. Find the radius of the circle whose equation is $(x + 3)^2 + (y - 7)^2 = 289$.

a. 7
b. 17
c. 34
d. 289

____ 32. Find the center of the circle whose equation is $(x + 11)^2 + (y - 7)^2 = 121$.

a. $(-11, 7)$
b. $(11, -7)$
c. $(121, 49)$
d. 11

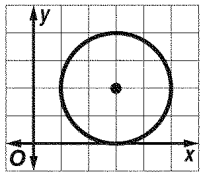
____ 33. Find the equation of a circle with center (0 , 0) and radius 4.

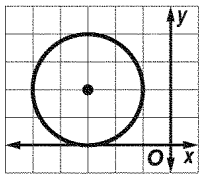
a. $x^2 + y^2 = 4$.
b. $x^2 + y^2 = 16$.
c. $(x - 4)^2 + (y - 4)^2 = 16$
d. $4x + 4y = 16$

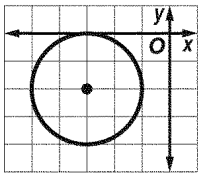
____ 34. Find the equation of a circle whose center is at (2, 3) and radius is 6.

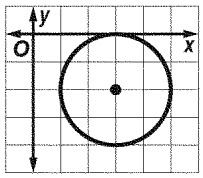
a. $(x + 2)^2 + (y + 3)^2 = 6$.
b. $(x - 2)^2 + (y - 3)^2 = 6$.
c. $(x + 2)^2 + (y + 3)^2 = 36$
d. $(x - 2)^2 + (y - 3)^2 = 36$

____ 35. Identify the graph of $(x - 3)^2 + (y + 2)^2 = 4$.

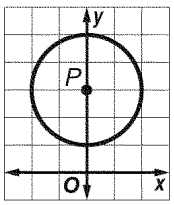
a. 

b. 

c. 

d. 

____ 36. Find the equation of $\odot P$.

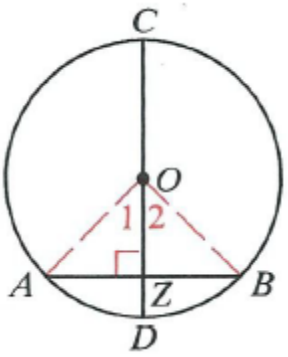


a. $x^2 + (y - 3)^2 = 4$.
b. $x^2 + (y - 3)^2 = 2$.
c. $(x - 3)^2 + y^2 = 2$
d. $(x - 3)^2 + y^2 = 4$

37. Write the equation of a circle whose diameter has endpoints (2,7) and (-6,15).

38. Write the equation of a circle with the center at (-2,1) and a radius with the endpoint (1,0).

39. If the radius of circle Q is 5m and OZ = 3m, find the following measures.



ZD = _____ AZ = _____

$m\overset{\frown}{AD}$ = _____ $m\overset{\frown}{BA}$ = _____