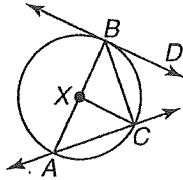## Unit 11: Circles Test Review

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   B. diameter= 12in

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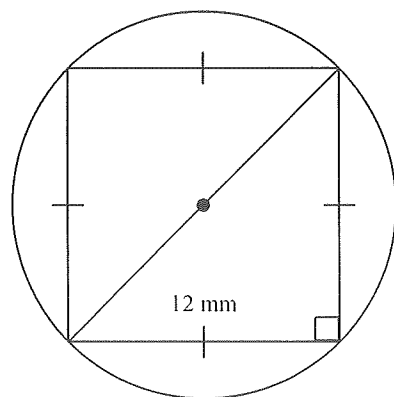
4. The diameter of a circular swimming pool is 15 feet. Find the exact circumference and area.

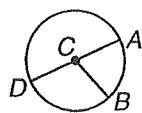5. Given that the circumference is 20π km, find the exact area.

6. Find the exact circumference of the circle.

4 cm

3 cm
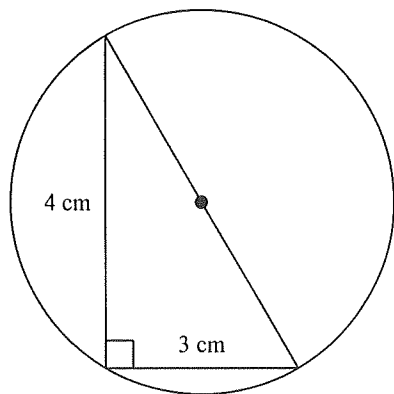
7. Find the exact circumference of the circle.

12 mm

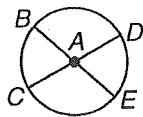8. In $\odot C$, $m\overset{\frown}{AB} = 72$. Assume all lines which appear to be diameters are actual diameters.
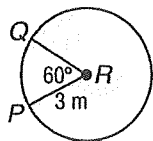
Find:

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 $\overset{\frown}{PQ}$ in $\odot R$ (in terms of *pi*).

11. Find the exact **LENGTH** of $\overset{\frown}{PQ}$ in $\odot R$ (in terms of *pi*) if the m<PRQ is 120° and the diameter is 24.

12. Points X and Y lie on $\odot P$ so that $PX = 5$ meters and $m\angle XPY = 90$. Find the exact **length** of $\overset{\frown}{XY}$.

13. 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.
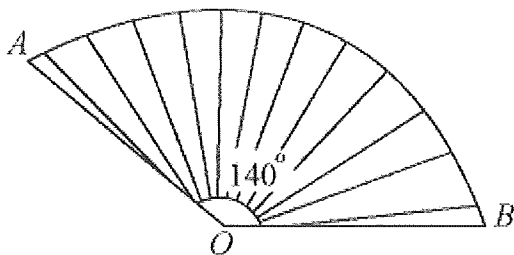
14. In $\odot O$, $AB = 12$ centimeters, $OE = 4$ centimeters, $OF = 4$ centimeters, and $m\overset{\frown}{CD} = 123°$. Find CF. Find the radius. Find $m\overset{\frown}{AB}$
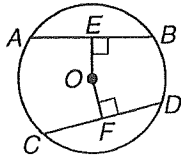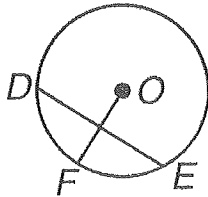

CF=_____

radius=_____

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

15. If $DE = 12$ inches, OF $= 10$ inches, and $\overline{OF}$ is perpendicular to $\overline{DE}$

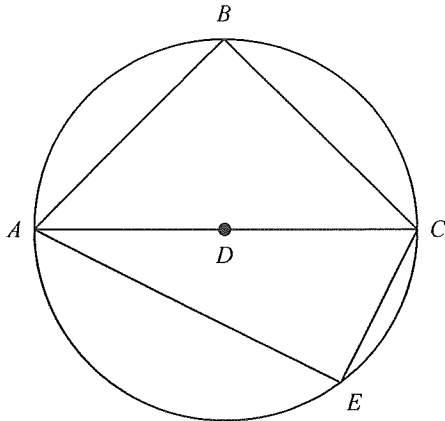A. Find the distance from the center to the chord and the distance from the chord to Point F.

B. If $m\overset{\frown}{DF}$=63°, what is $m\overset{\frown}{FE}$?
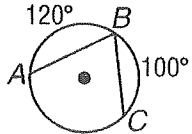
16. Chords $\overline{XY}$ and $\overline{WV}$ are equidistant from the center of $\odot O$. If $XY = 2x + 30$ and $WV = 5x - 12$, find x.

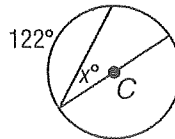17. Find the radius of a circle if a 48-meter chord is 7 meters from the center. Draw it!

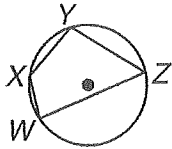18. In ⊙D, $\overline{AB} \cong \overline{CB}$ and m arc $CE = 50$. Find $m\angle BCE$.

19. Find $m\angle ABC$.

Find x.

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

m< Z=_____
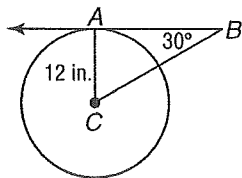
m<Y=_____

m$\widehat{WXY}$ =_____

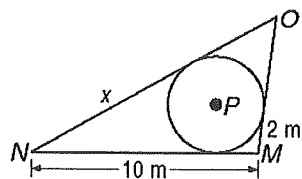m$\widehat{WZY}$ =_____

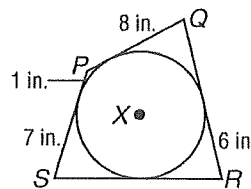21. If $\overline{AB}$ is tangent to ⊙C at A, find BC and AB. *(Use exact values)*
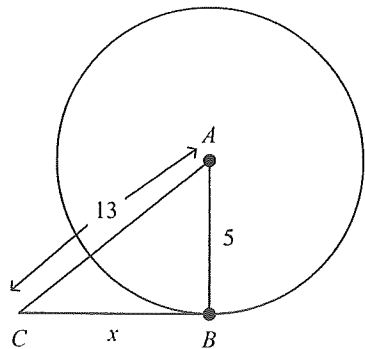

BC=_____   AB =_____

22. a)If $\overline{MN}$, $\overline{NO}$, and $\overline{MO}$ are tangent to $\odot P$, find x.

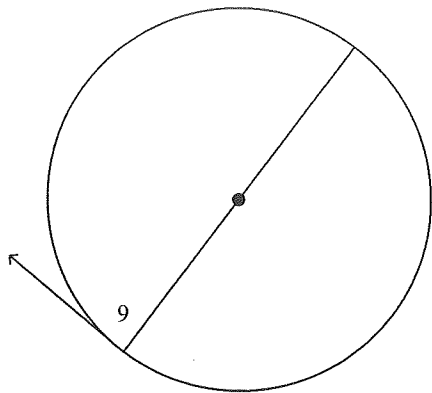b) $\overline{PQ}$, $\overline{QR}$, $\overline{RS}$, and $\overline{SP}$ are tangent to $\odot X$. Find RS.

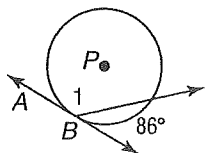23. If x is 12, is BC tangent to the circle? Explain your answer.
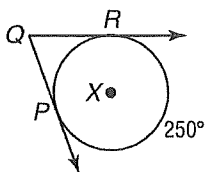
Find the measure of the numbered angle.

24.

_____ 25. If $\overleftrightarrow{AB}$ is tangent to $\odot P$ at B, find $m\angle 1$.
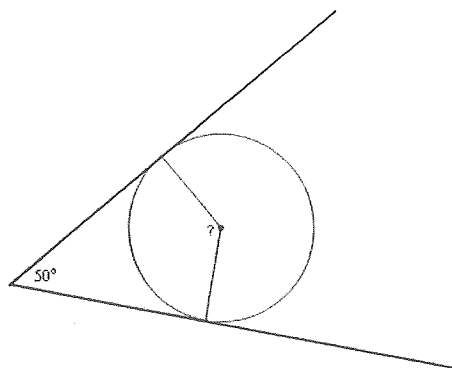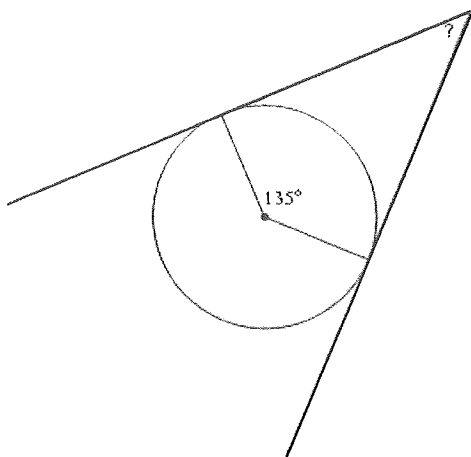
a. 43
b. 86

c. 137
d. 274

_____ 26. Find $m\angle PQR$ if $\overrightarrow{QP}$ and $\overrightarrow{QR}$ are tangent to $\odot X$.

a. 70
b. 110

c. 125
d. 140

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

a)

b)

_____ 28. Find the radius of the circle whose equation is $(x+3)^2 + (y-7)^2 = 289$.
a. 7
b. 17

c. 34
d. 289

_____ 29. 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

_____ 30. 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. $4x + 4y = 16$

_____ 31. 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. $(x-2)^2 + (y-3)^2 = 36$

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

a.
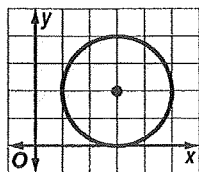
c.
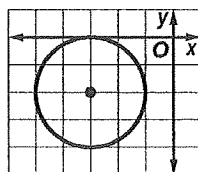
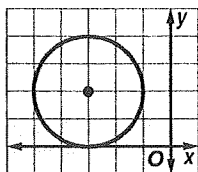b.
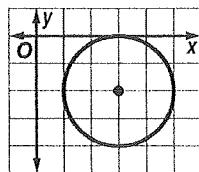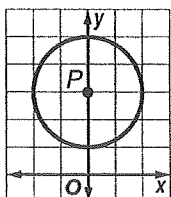

d.

33. 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. $(x - 3)^2 + y^2 = 4$