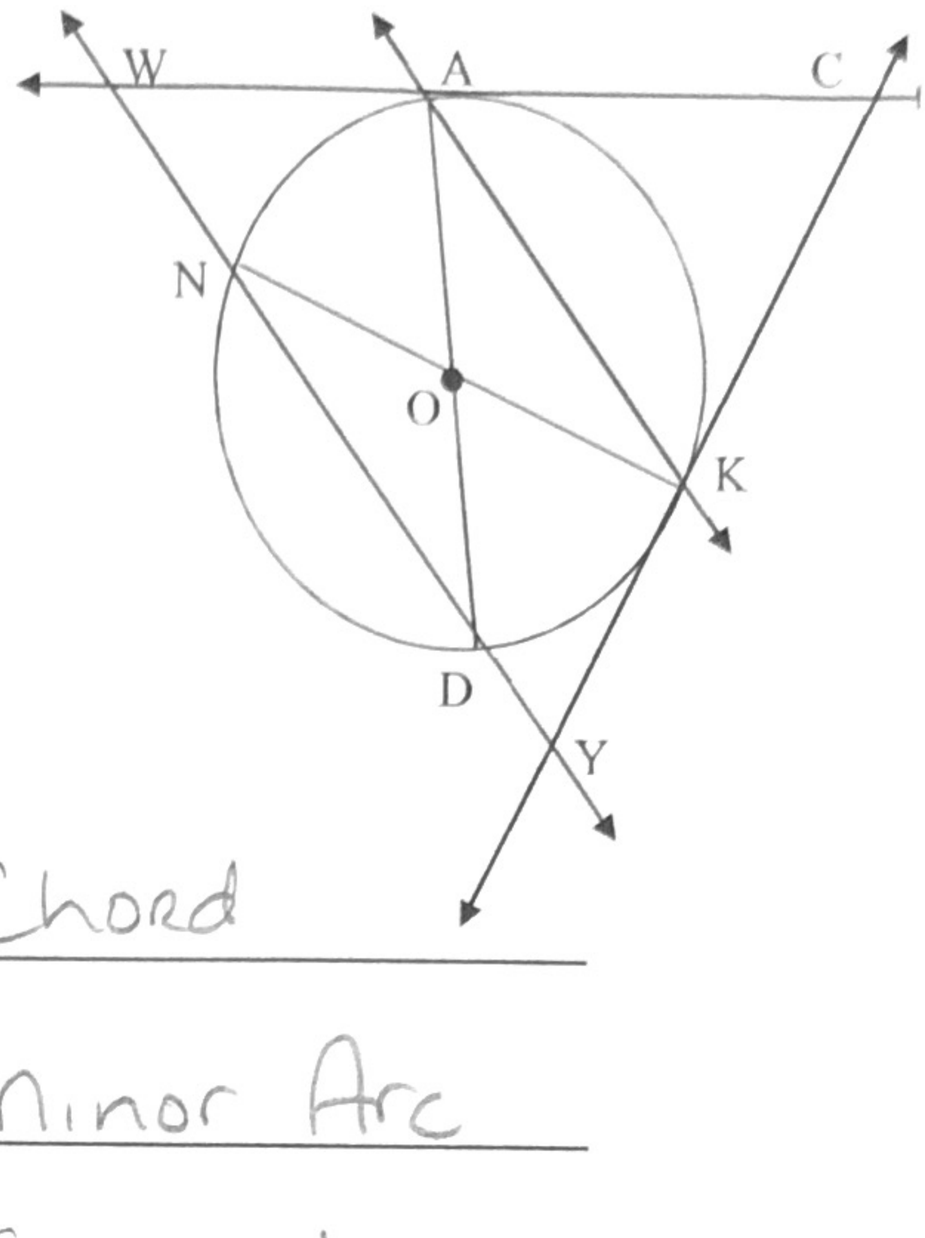
Geometry B CH 10 Circles Self Assessment Good luck to Key

#1 – 10: Write the word that best describes each circle part. Each word in the Word Bank will be used once.



WORD BANK:

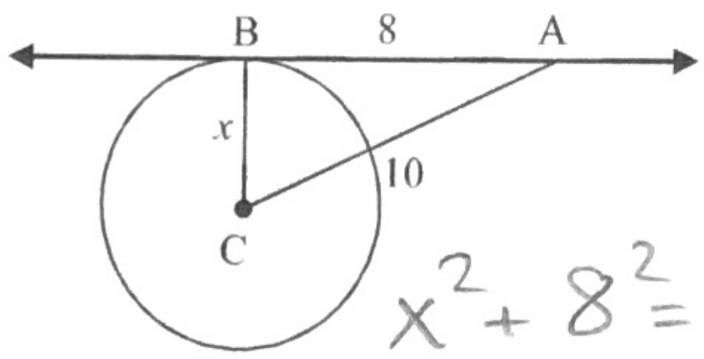
Central Angle	Chord	Diameter
Inscribed Angle	Major Arc	Minor Arc
Radius	Secant	
Semicircle	Tangent	

1. $\overset{\frown}{AD}$ Semicircle
2. $\overline{ND}$ Chord
3. $\overline{OK}$ Radius
4. $\overset{\frown}{DK}$ Minor Arc
5. $\angle AOK$ Central Angle
6. $\overleftrightarrow{YW}$ Secant
7. $\overline{NK}$ Diameter
8. $\overset{\frown}{KDA}$ Major Arc
9. $\angle AKN$ Inscribed Angle
10. $\overleftrightarrow{WC}$ Tangent

11. What is the difference between a secant and a chord? Ends on circle or goes through ends.

#12-13: Using properties of tangent lines, solve for *x*.

12. $\overleftrightarrow{AB}$ is tangent to circle C.

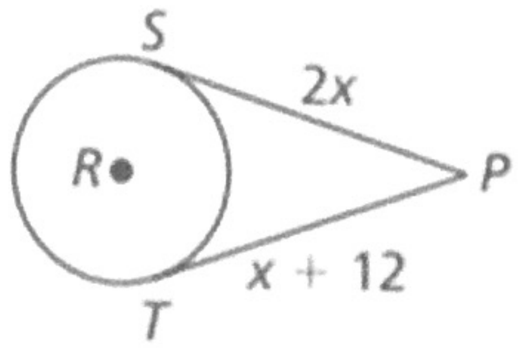


$x^2 + 8^2 = 10^2$

$x^2 + 64 = 100$

$x^2 = 36$ $x = 6$

13. $\overline{SP}$ and $\overline{TP}$ are both tangent to Circle R



$2x = x + 12$

$x = 12$

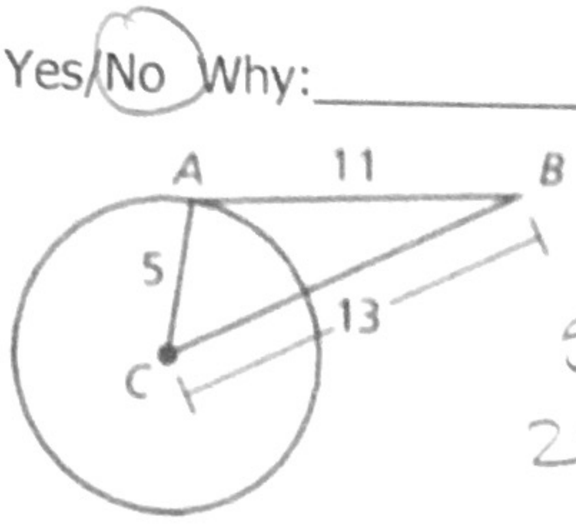
14. What is a tangent line and how can you verify that a line is tangent to a circle?

Touches at one point

$a^2+b^2=c^2$

In Exercises 14 and 15, tell whether $\overline{AB}$ is tangent to $\odot C$. Explain your reasoning.

14. Yes/No Why:

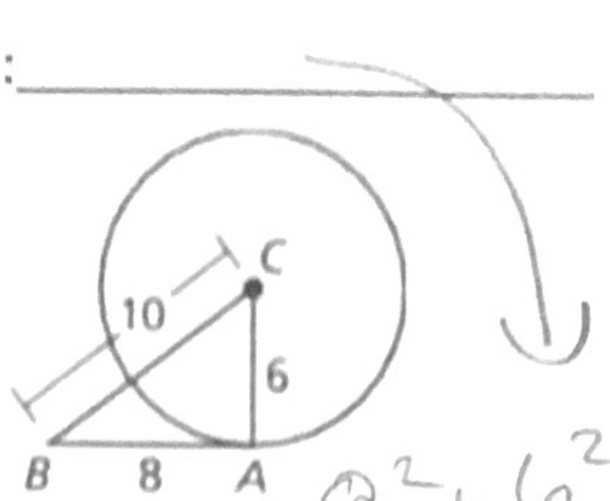


$5^2+11^2 \stackrel{?}{=} 13^2$

$25+121 \stackrel{?}{=} 169$

$146 \neq 169$

15. Yes/No Why:



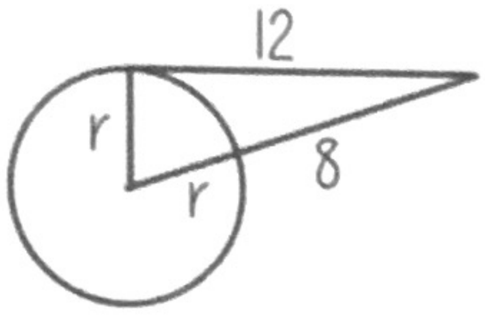
$8^2+6^2=10^2$

$64+36=100$

$100=100$

16. Given AB is tangent to circle C:

Solve for r. (Use FOIL method)



$r^2+12^2=(r+8)^2$

$r^2+144=r^2+16r+64$

$144=16r+64$

$80=16r$

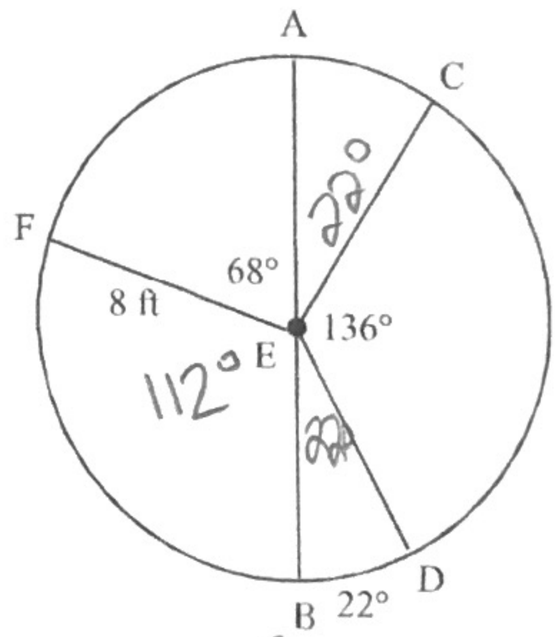
$r=5$

#17-21: Find the indicated measure or length.

17. $m\angle AEC =$ 22°

$m\angle BEF =$

$m\angle BED =$



18. $m\widehat{CD} =$ 136°

19. $m\widehat{BC} =$ 158°

20. $m\widehat{BFC} =$ 202°

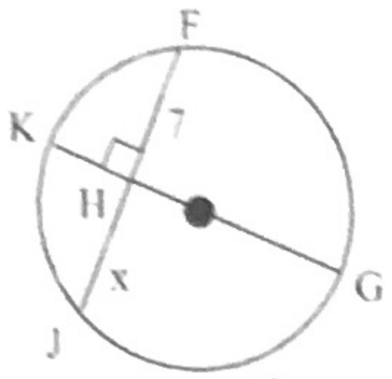
21. **length** of $\widehat{AF}$ (Use ArcLength Formula) length: $\frac{68}{360} \cdot 2 \cdot \pi \cdot 8 =$ 9.49 ft

22. Using the picture above, state if the arc is a Major Arc, Minor Arc, or Semi Circle:

$\widehat{AC}$ Minor $\widehat{AB}$ Semicircle $\widehat{DFC}$ Major

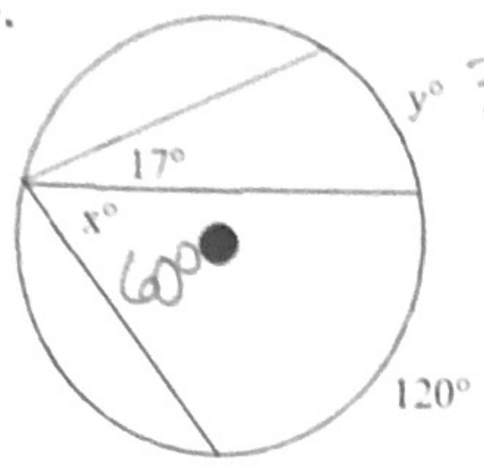
#23-28: Solve for the variable(s).

23.

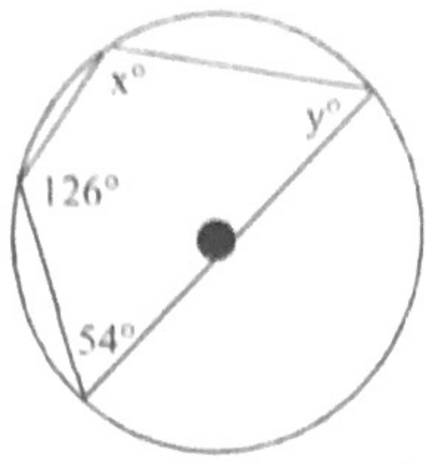


X=7

24.



25.



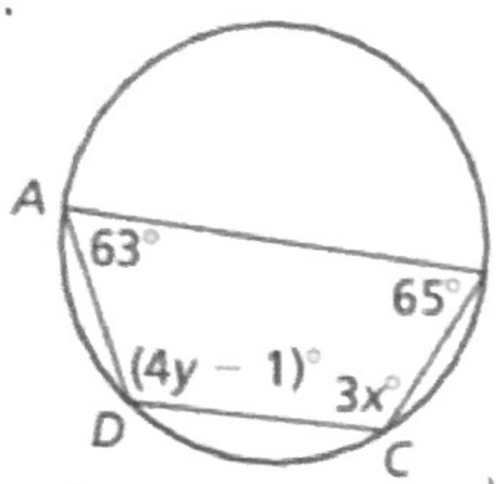
X+54=180

X=126°

Y+126=180

y=54°

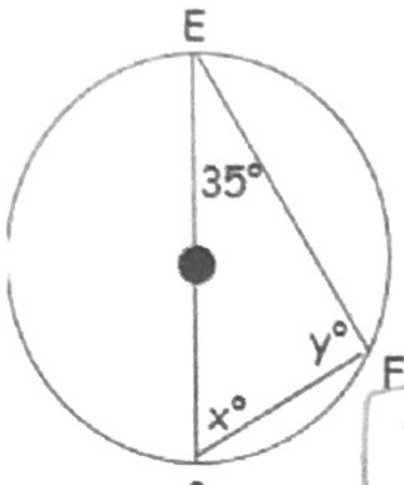
26.



63+3x=180

X=39°

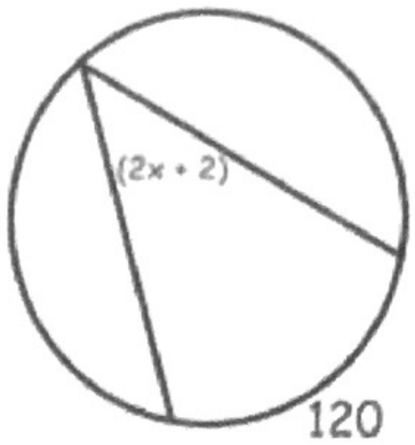
27.



Y=90°

X=55°

28.



4y-1=65

4y=66

y=16.5

2(2x+2)=120

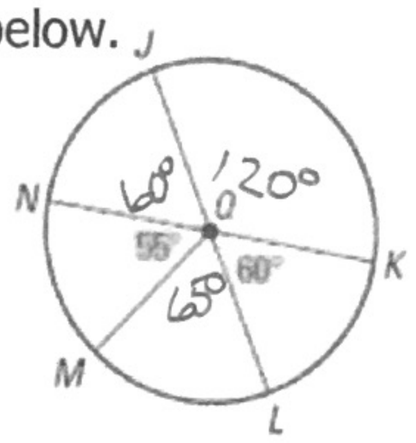
2x+2=60

2x=58

X=26

29. If the diameter of a circle is 22 cm, what is the radius of the circle? r = DTY

30. Solve for all central angles in the circle in the diagram below.



31. What is the difference between an inscribed angle and a central angle? You may draw a picture to demonstrate.

inscribed

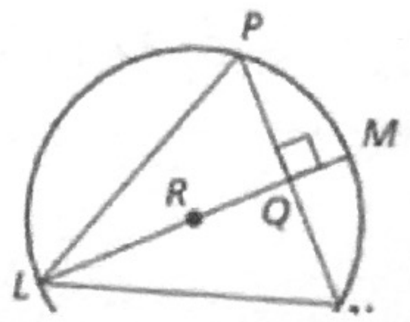
central

32. In the diagram of $\odot U$, which congruence relation is *not* necessarily true?

A. $\overline{PQ} \cong \overline{QN}$ **B.** $\overline{NL} \cong \overline{LP}$

C. $\widehat{MN} \cong \widehat{MP}$ **D.** $\widehat{PN} \cong \widehat{PL}$

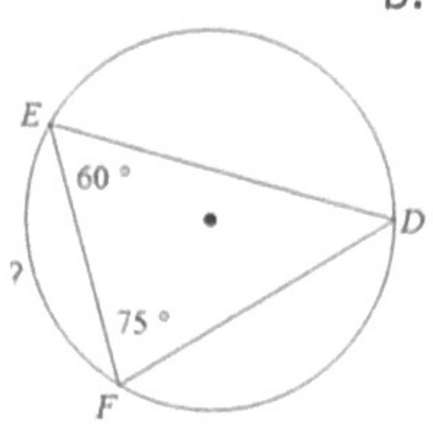
no thank you



33. Use the circle to answer the questions below.

a. Find $m\widehat{EF}$

_____



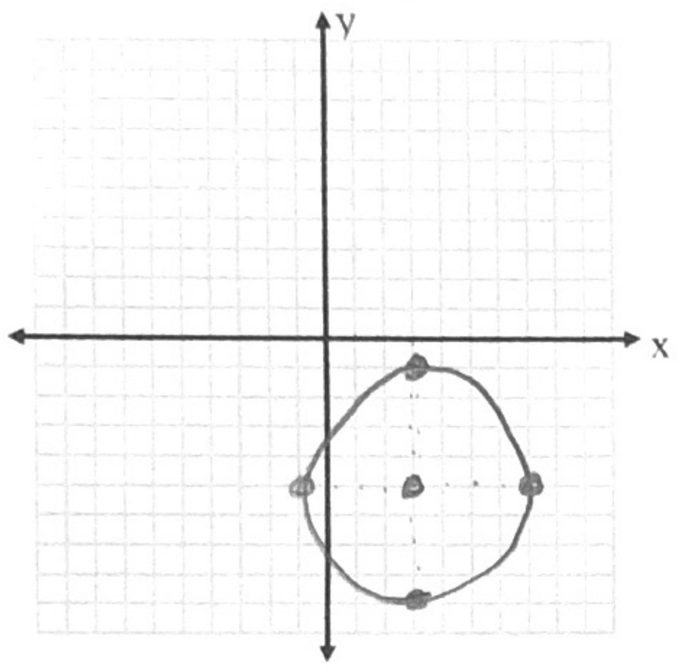
b. Find the length of $\widehat{EF}$ given that the radius is 10 cm

45°

#34-35: EQUATION of a Circle: $(x-h)^2 + (y-k)^2 = r^2$

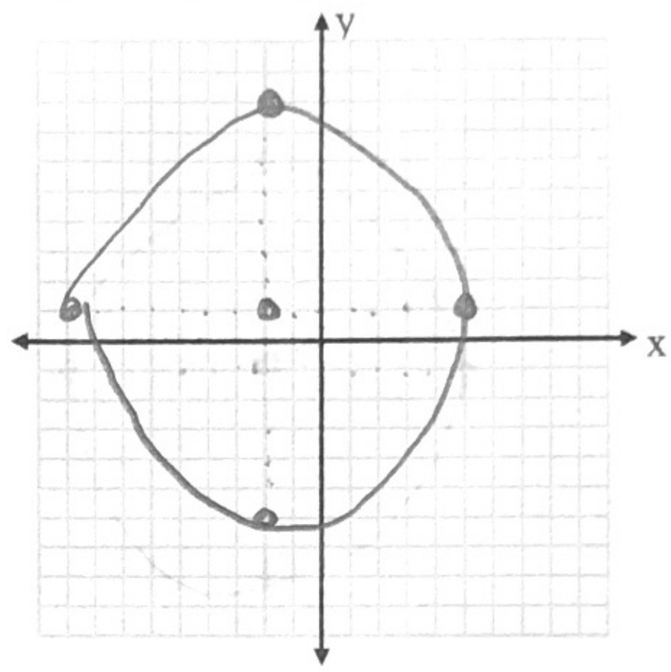
Graph the circle and provide center and radius.

34. $(x - 3)^2 + (y + 5)^2 = 16$



r = 4 **Center=** 3-5

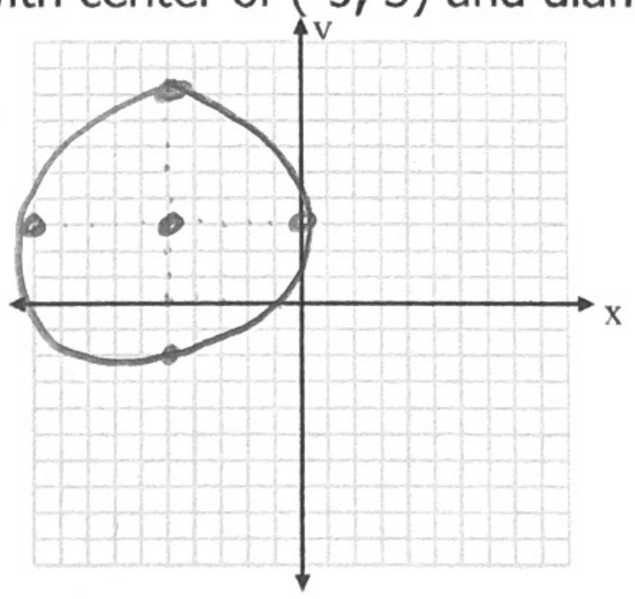
35. $(x + 2)^2 + (y - 1)^2 = 49$



r = 7 **Center =** -2

36. Write the equation of the circle with center of (-5, 3) and diameter of 10 AND graph the circle.

Equation: $(x+5)^2 + (y-3)^2 = 25$



r=5

#37-38: Write the standard equation of the circle with the given center and radius.

37. center (-5, 0) radius 6

$(x+5)^2 + y^2 = 36$

38. center (-3, -4) radius 11

$(x+3)^2 + (y+4)^2 = 121$