NAME Key DATE _____ PD _____

Ch. 10 Circle Review

☑ Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Central Angles	1, 12		10, 11, 13 - 15
Interior Angles	4, 6, 12, 27	3, 26	10, 11, 13 - 15
Exterior Angles	12	2, 5	10, 11
Inscribed Angles	12	7 - 9	10, 11, 13 – 15
Tangents		16 - 19	33
Chord-Chord Theorem		26, 27	33
Secant-Secant Theorem	21	24	
Secant-Tangent Theorem	22	28, 30	
Radius to a Chord Theorem	20	23, 25, 29	31, 32, 33
Pythagorean Theorem	20	23, 25, 29	31, 32, 33
10.3 Theorems			34
Equations of Circles	35	36	
Graphing Circles		36	
Drawing Diagrams			37 – 41
Inscribed Polygons		42	

I. Central Angles

1. Both circles are centered at A. $m\angle SAR = 32^\circ$, $m\angle RAW = 112^\circ$, AR = 5 in, AQ = 3 in.

a. $m\widehat{SR}$ = 32°

b. $m\widehat{TYX}$ = 216°

c. $m\widehat{WR}$ = 112°

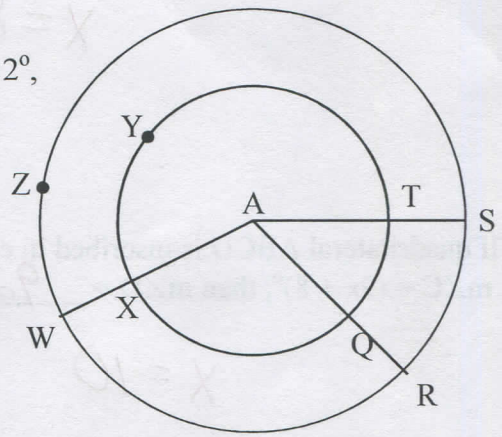
d. $m\widehat{XQ}$ = 112°

e. $m\widehat{TX}$ = 144°

f. $m\widehat{SW}$ = 144°

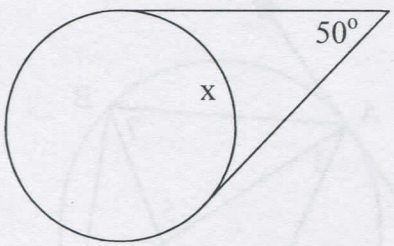
g. $m\widehat{SZW}$ = 216°

h. $m\widehat{TQ}$ = 32°

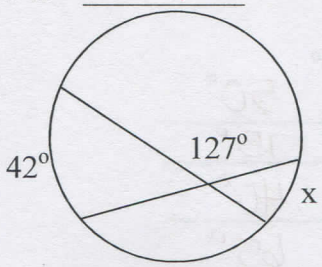


II. Interior and Exterior Angles

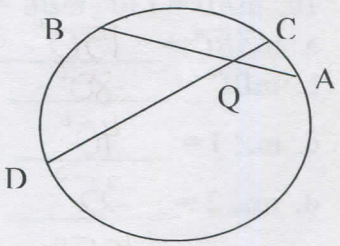
2. x = 130°



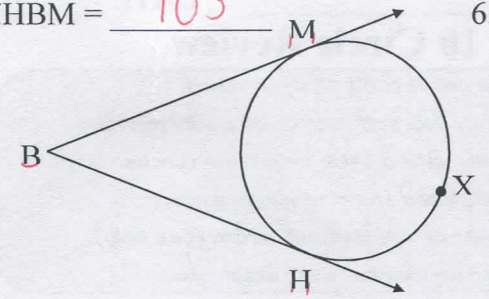
3. x = 64°



4. $m\angle BQD = 48^\circ$, $m\widehat{AC} = 16^\circ$, $m\widehat{BD}$ = 80°

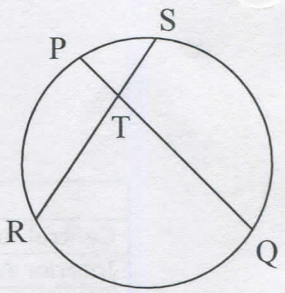


5. $m\overset{\frown}{MXH} = 285^\circ$. $m\angle HBM =$ 105°



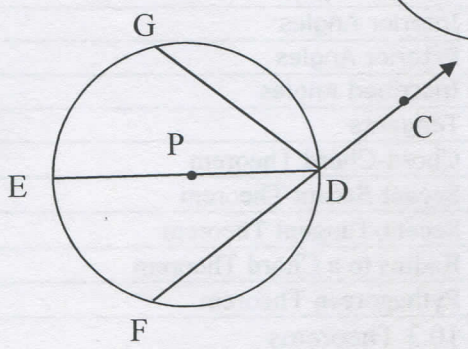
6. $m\overset{\frown}{QS} = 125$, $m\overset{\frown}{PRQ} = 220$, $m\overset{\frown}{RQS} = 215$

$m\angle RTQ =$ 52.5°



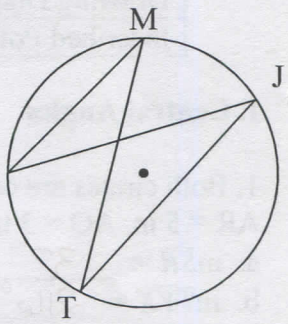
III. Inscribed Angles

7. In circle P, $m\overset{\frown}{DG} = 114^\circ$, $m\overset{\frown}{DF} = 122^\circ$.
$m\angle CDG =$ 118°, $m\angle FDE =$ 29°



8. If $m\angle L = (3x + 7)^\circ$, $m\angle M = (4x + 3)^\circ$ and $m\angle T = (5x - 9)^\circ$, then $m\angle J =$ 35°

$X = 8$



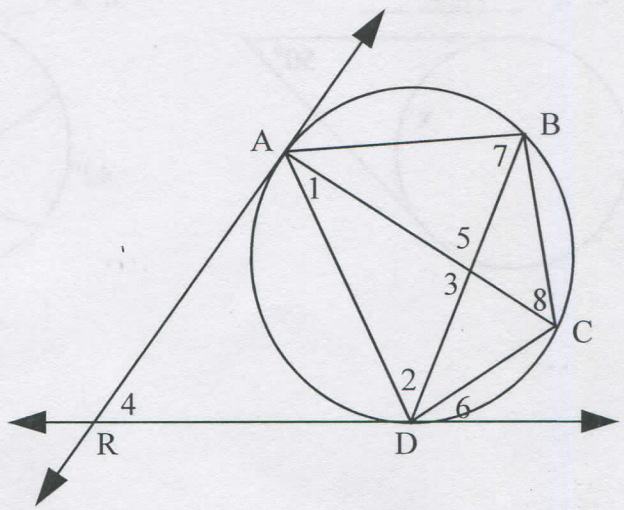
9. If quadrilateral ABCD is inscribed in circle P, $m\angle A = (7x + 12)^\circ$, $m\angle B = (3x + 58)^\circ$ and $m\angle C = (9x + 8)^\circ$, then $m\angle D =$ 92°

$X = 10$

IV. Putting it all together

10. $m\overset{\frown}{AD} = 130^\circ$, $m\overset{\frown}{BC} = 80^\circ$, $m\overset{\frown}{AB} = 70^\circ$.

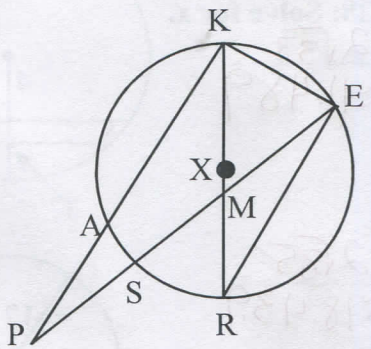
a. $m\overset{\frown}{ABC} =$ 150°
b. $m\overset{\frown}{DC} =$ 80°
c. $m\angle 1 =$ 40°
d. $m\angle 2 =$ 35°
e. $m\angle 3 =$ 105°
f. $m\angle 4 =$ 50°
g. $m\angle 5 =$ 75°
h. $m\angle 6 =$ 40°
i. $m\angle 7 =$ 65°
j. $m\angle 8 =$ 35°



11. In circle X, $m\overset{\frown}{AK} = 108^\circ$, $m\angle KRE = 30^\circ$ and $m\angle KME = 52^\circ$.

a. $m\overset{\frown}{RS}$ = 44° b. $m\overset{\frown}{AS}$ = 28°

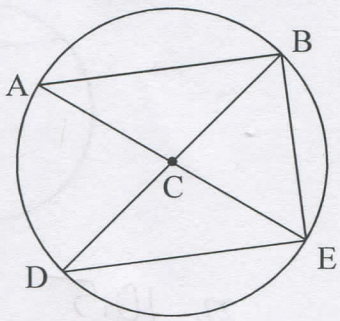
c. $m\angle KPE$ = 16° d. $m\angle AKE$ = 96°



12. Write the formulas for each of the four type of Angles in Circles.

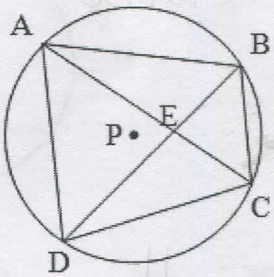
13. In circle C, $m\overset{\frown}{AB} = 116^\circ$. Find each indicated measure.

a. $m\angle ABD$ = 32°
b. $m\angle BCE$ = 64°
c. $m\angle BAE$ = 32°
d. $m\angle ACD$ = 64°



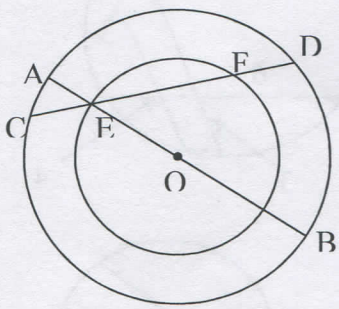
14. In circle P, $m\angle EDC = 27$, $m\angle BCE = 50$ and $m\angle ECD = 44$.

a. $m\angle ADE$ = 50°
b. $m\angle DAB$ = 86°
c. $m\overset{\frown}{AC}$ = 154°
d. $m\overset{\frown}{DC}$ = 118°
e. $m\angle DEC$ = 109°



15. Both circles are centered at O.

$m\overset{\frown}{EF} = 80$, $m\overset{\frown}{AC} = 20$. $m\overset{\frown}{BD}$ = 100°

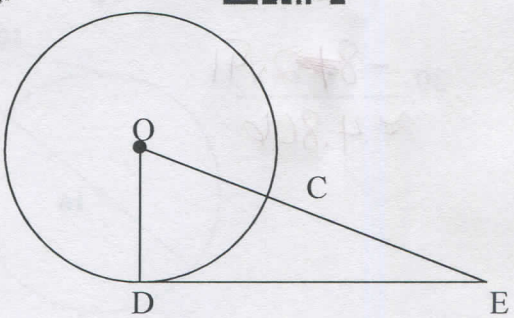


V. Segments

Tangent - Secant Secant – Secant Chord – Chord Equations of Circles

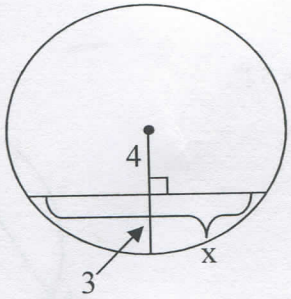
16 – 19: $\overline{DE}$ is tangent to circle O.

16. 6 If DE = 12 and DO = 9, then CE = _?_.
17. 9 If $m\angle DOE = 60^\circ$ and OD = 9, then CE = _?_.
18. 12 If DO = 5 and CE = 8, then DE = _?_.
19. 15 If DE = 36 and OE = 39, then DO = _?_

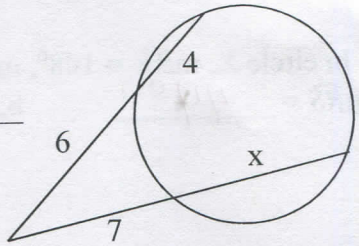


20 – 28: Solve for x.

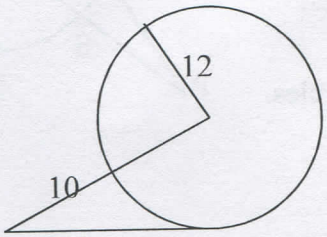
20. $2\sqrt{33}$ ≈11.489



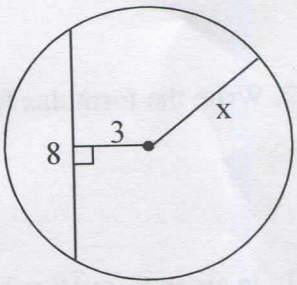
21. $\frac{11}{7}$ ≈1.571



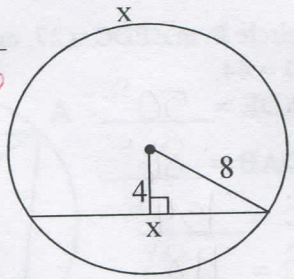
22. $2\sqrt{85}$ ≈18.439



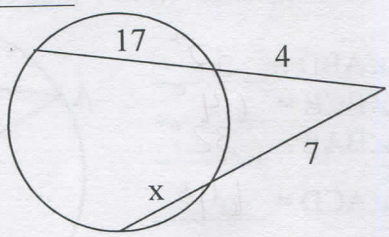
23. 5



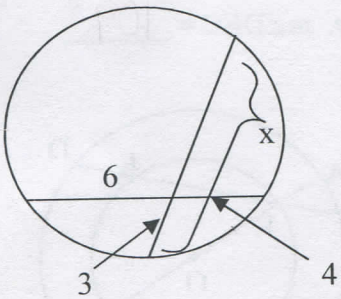
24. $8\sqrt{3}$ ≈13.856



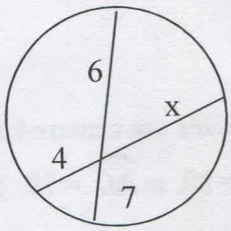
25. 5



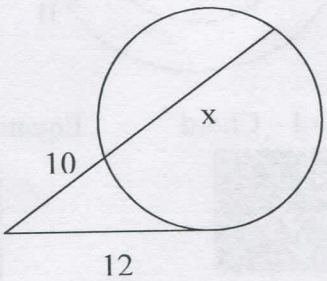
26. 11



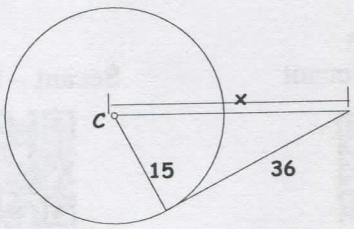
27. 10.5



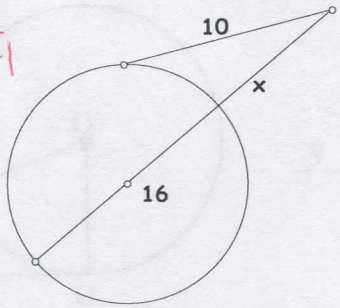
28. 4.4



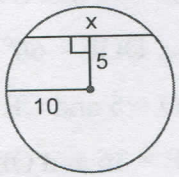
29. 39



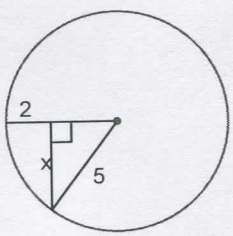
30. ~~$-8 \pm 2\sqrt{41}$~~ ≈4.806



31. $10\sqrt{3}$ ≈17.321



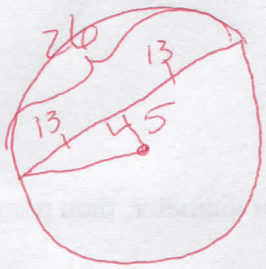
32. 4



33. Suppose a chord of a circle is 26 meters long and it is 5 meters away from the center. Find the length of the radius. *(Draw a diagram and round to nearest 10^{th}.)*

$x = \sqrt{194}$ m

≈ 13.9m



34. Suppose a diameter is 34" long and a chord is 30" long. Find the distance between the chord and the center. *(Draw your own diagram)*

8"

35. Write the equation of the circle with center (4,-2) and radius 7 inches.

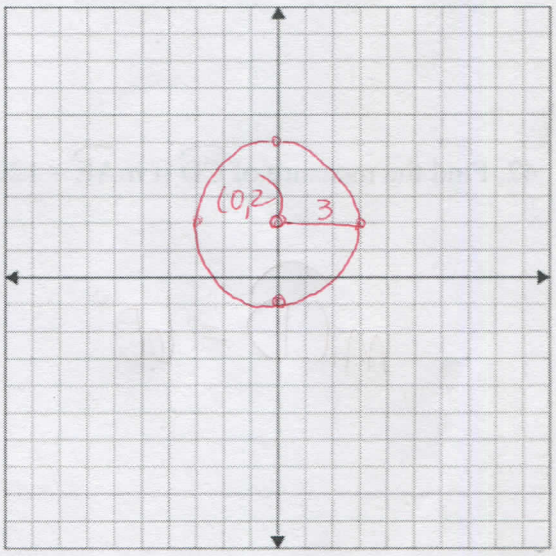
$(x-4)^2 + (y+2)^2 = 49$

36. Graph the circle with the given equation. **Label the center and the measure of the radius on the graph.**

$x^2 + (y - 2)^2 = 9$

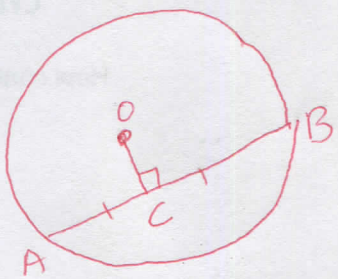
C(0,2)

r=3

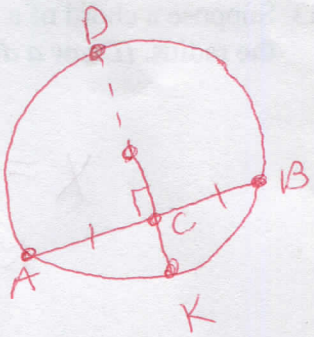


For 37 - 41, draw one diagram.

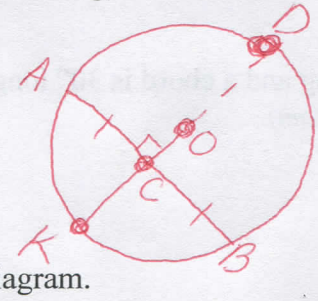
C 37. If you have circle O with a chord $\overline{AB}$ and the distance to the chord is $\overline{OC}$, what is the midpoint of $\overline{AB}$?



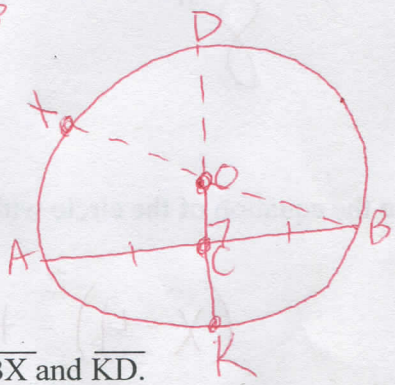
$\overset{\frown}{AK}$ / $\overset{\frown}{BK}$ 38. If you extend $\overline{OC}$ to intersect the circle at K, name 2 congruent arcs.



$\overset{\frown}{AD}$ / $\overset{\frown}{BD}$ 39. If $\overline{KD}$ is a diameter, then name 2 more congruent arcs.



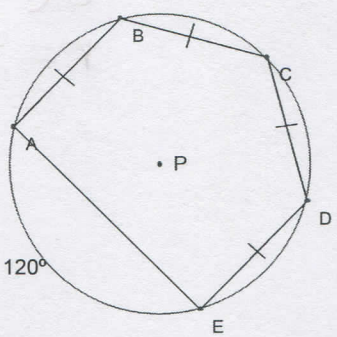
$\overline{KD}$ 40. Name the longest segment in the diagram.



O 41. If $\overline{BX}$ is a diameter, name the point of intersection of $\overline{BX}$ and $\overline{KD}$.

42. Find the measure of $\overset{\frown}{CD}$ if $m\overset{\frown}{AE} = 120°$

$m\overset{\frown}{CD} = 60°$



CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

1 2	3 4 5	6 7	8
Basic	Intermediate	Advanced	Solved ALL!