Key

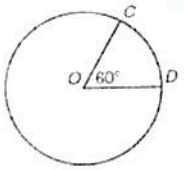
* Show work for full credit!

C. **Test Review**

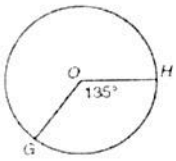
Problem Set

Determine the measure of each minor arc.

1. $\overset{\frown}{CD}$ 60°

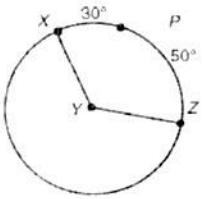


2. $\overset{\frown}{GH}$ 135°

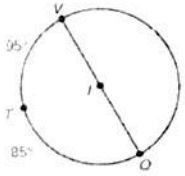


Determine the measure of each central angle.

3. $m\angle XYZ$ 80°

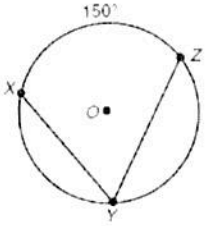


4. $m\angle VIQ$ 180°

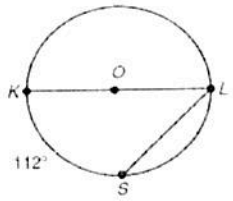


Determine the measure of each inscribed angle.

5. $m\angle XYZ$ 75°

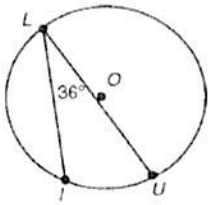


6. $m\angle KLS$ 56°

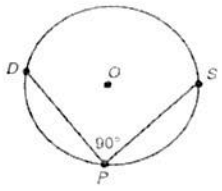


Determine the measure of each intercepted arc.

7. $m\overset{\frown}{IU}$ 72°

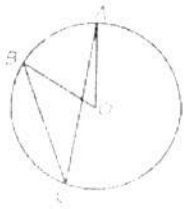


8. $m\overset{\frown}{DS}$ 180°



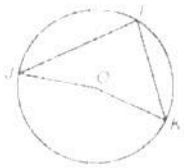
Calculate the measure of each angle.

9. The measure of $\angle AOB$ is 62°. What is the measure of $\angle ACB$?



31°

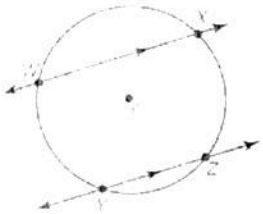
10. The measure of $\angle JOK$ is 168°. What is the measure of $\angle JIK$?



84°

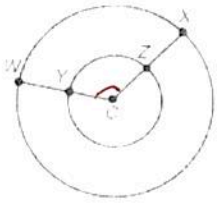
Use the given information to answer each question.

11. In circle C, $m\overset{\frown}{XZ} = 86°$. What is $m\overset{\frown}{WY}$?



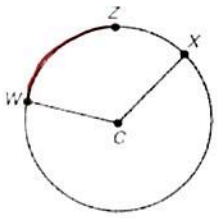
96°

12. In circle C, $m\angle WCX = 102°$. What is $m\overset{\frown}{YZ}$?



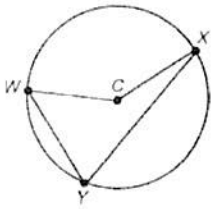
102°

13. In circle C, $m\overset{\frown}{WZ} = 65°$ and $m\overset{\frown}{XZ} = 38°$. What is $m\angle WCX$?



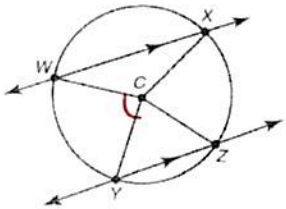
103°

14. In circle C, $m\angle WCX = 105°$. What is $m\angle WYX$?



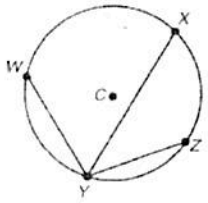
52.5°

15. In circle C, $m\angle WCY = 83°$. What is $m\angle XCZ$?



83°

16. In circle C, $m\angle WYX = 50°$ and $m\angle XYZ = 30°$. What is $m\overset{\frown}{WXZ}$?

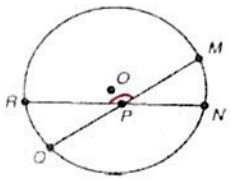


160°

Problem Set

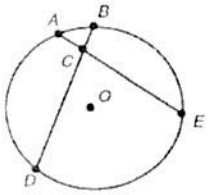
Write an expression for the measure of the given angle.

17. $m\angle RPM$



$\angle RPM = \frac{\overset{\frown}{RM} + \overset{\frown}{QN}}{2}$

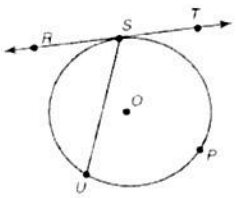
18. $m\angle ACD$



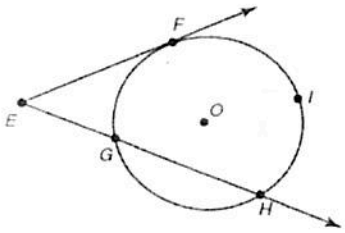
$\angle ACD = \frac{\overset{\frown}{AD} + \overset{\frown}{BE}}{2}$

List the intercepted arc(s) for the given angle.

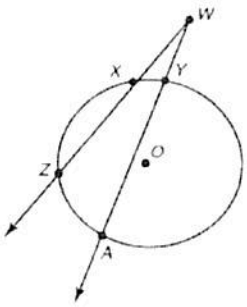
19. $\angle RSU$ $= \frac{\overset{\frown}{SU}}{2}$



20. $\angle FEH$ $= \frac{\overset{\frown}{FIH} - \overset{\frown}{FG}}{2}$



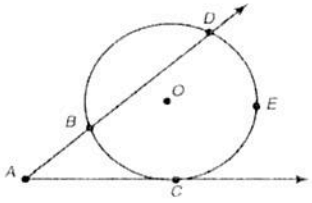
21. $\angle ZWA$



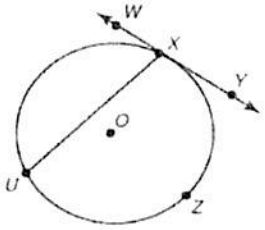
$\angle ZWA = \frac{\overset{\frown}{ZA} - \overset{\frown}{XY}}{2}$

Write an expression for the measure of the given angle.

22. $m\angle DAC$ $= \frac{\overset{\frown}{DEC} - \overset{\frown}{BC}}{2}$



23. $m\angle UXY$ $= \frac{\overset{\frown}{UZX}}{2}$

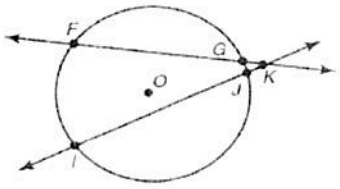


Use the diagram shown to determine the measure of each angle or arc.

24. Determine $m\overset{\frown}{FI}$. $120°$

$m\angle K = 20°$

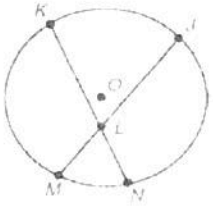
$m\overset{\frown}{GJ} = 80°$



25. Determine $m\angle KLJ$.

$m\widehat{KM} = 120°$ 70°

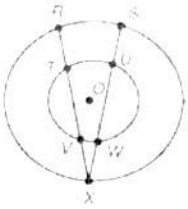
$m\widehat{JN} = 100°$



26. Determine $m\angle X$.

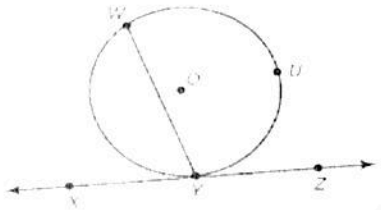
$m\widehat{VW} = 50°$ 17.5°

$m\widehat{TU} = 85°$



27. Determine $m\angle WYX$.

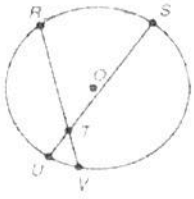
$m\widehat{WUY} = 300°$ 30°



28. Determine $m\widehat{RS}$.

$m\widehat{UV} = 30°$

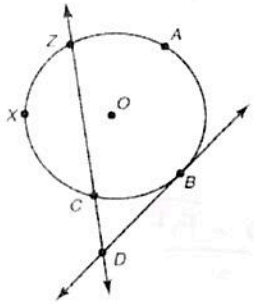
$m\angle RTS = 80°$ 130°



29. Determine $m\angle D$.

$m\widehat{ZXC} = 150°$ 75°

$m\widehat{CB} = 30°$

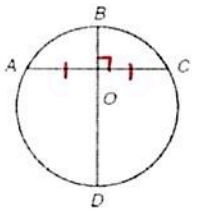


Problem Set

Use the given information to answer each question. Explain your answer.

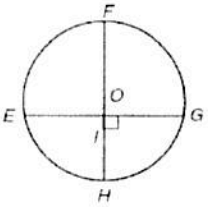
30. If diameter $\overline{BD}$ bisects $\overline{AC}$, what is the angle of intersection?

90°

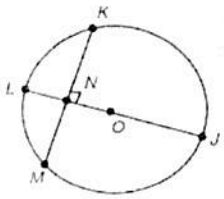


31. If diameter $\overline{FH}$ intersects $\overline{EG}$ at a right angle, how does the length of $\overline{EI}$ compare to the length of $\overline{IG}$?

$\overline{EI} = \overline{IG}$

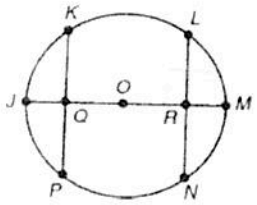


32. How does the measure of $\overset{\frown}{KL}$ and $\overset{\frown}{LM}$ compare?



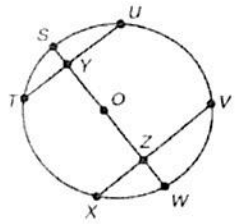
$\overset{\frown}{KL} = \overset{\frown}{LM}$

33. If $\overline{KP} \cong \overline{LN}$, how does the length of $\overline{QO}$ compare to the length of $\overline{RO}$?



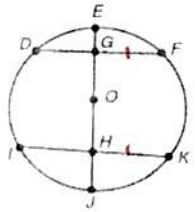
$\overline{QO} = \overline{RO}$

34. If $\overline{YO} \cong \overline{ZO}$, what is the relationship between $\overline{TU}$ and $\overline{XV}$?



$\overline{TV} = \overline{XV}$

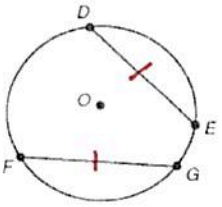
35. If $\overline{GO} \cong \overline{HO}$ and diameter $\overline{EJ}$ is perpendicular to both, what is the relationship between $\overline{GF}$ and $\overline{HK}$?



$\overline{GF} = \overline{HK}$

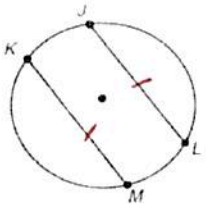
Compare each measurement. Explain your answer.

36. If $\overline{DE} \cong \overline{FG}$, how does the measure of $\overset{\frown}{DE}$ and $\overset{\frown}{FG}$ compare?



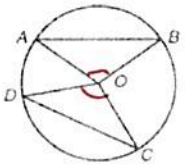
$\overset{\frown}{DE} = \overset{\frown}{FG}$

37. If $\overset{\frown}{KM} \cong \overset{\frown}{JL}$, how does the measure of $\overline{JL}$ and $\overline{KM}$ compare?



$\overline{JL} = \overline{KM}$

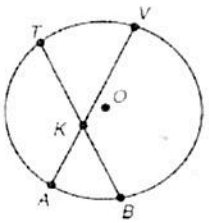
38. If $\angle AOB \cong \angle DOC$, what is the relationship between $\overline{AB}$ and $\overline{DC}$?



$\overline{AB} = \overline{DC}$

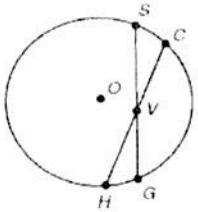
Use each diagram and the Segment Chord Theorem to write an equation involving the segments of the chords.

39.



$(\overline{TK})(\overline{KB}) = (\overline{KV})(\overline{KA})$

40.

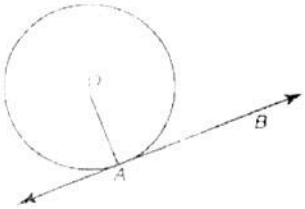


$(\overline{SV})(\overline{VG}) = (\overline{CV})(\overline{VH})$

Problem Set

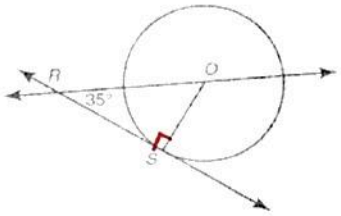
Calculate the measure of each angle. Explain your reasoning.

41. If $\overline{OA}$ is a radius, what is the measure of $\angle OAB$?



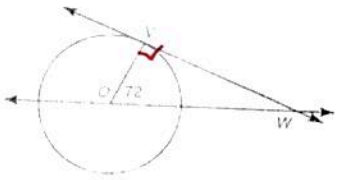
90°

42. If $\overline{RS}$ is a tangent segment and $\overline{OS}$ is a radius, what is the measure of $\angle ROS$?



55°

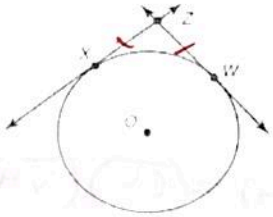
43. If $\overline{VW}$ is a tangent segment and $\overline{OV}$ is a radius, what is the measure of $\angle VWO$?



18°

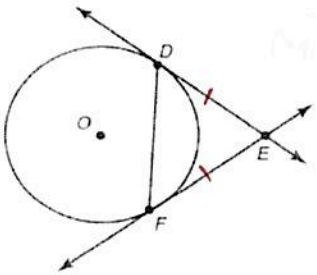
Write a statement to show the congruent segments.

44. $\overleftrightarrow{XZ}$ and $\overleftrightarrow{ZW}$ are tangent to circle O.



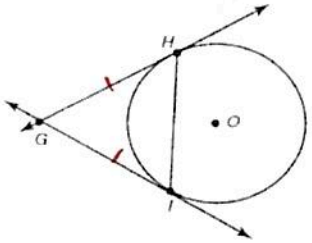
$\overline{XZ} = \overline{ZW}$

45. $\overleftrightarrow{DE}$ and $\overleftrightarrow{FE}$ are tangent to circle O.



$\overline{DE} = \overline{EF}$

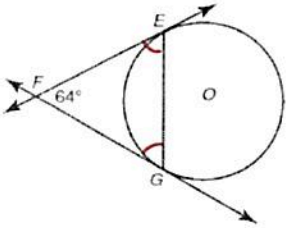
46. $\overleftrightarrow{GH}$ and $\overleftrightarrow{GI}$ are tangent to circle O.



$\overline{GH} = \overline{GI}$

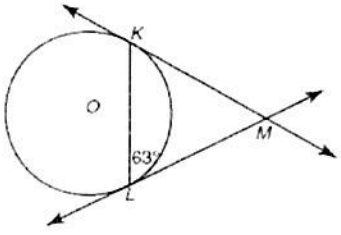
Calculate the measure of each angle. Explain your reasoning.

47. If $\overline{EF}$ and $\overline{GF}$ are tangent segments, what is the measure of $\angle EGF$?



58°

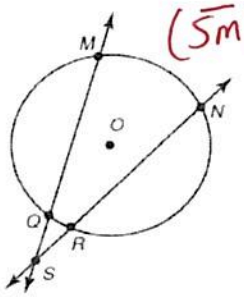
48. If $\overline{KM}$ and $\overline{LM}$ are tangent segments, what is the measure of $\angle KML$?



54°

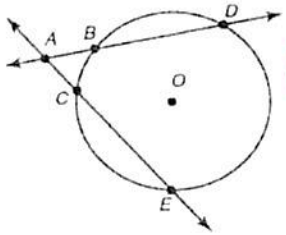
Use each diagram and the Secant Segment Theorem to write an equation involving the secant segments.

49.



$(\overline{SM})(\overline{SQ}) = (\overline{SN})(\overline{SR})$

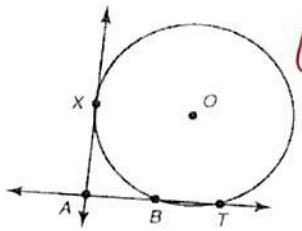
50.



$(\overline{AD})(\overline{AB}) = (\overline{AE})(\overline{AC})$

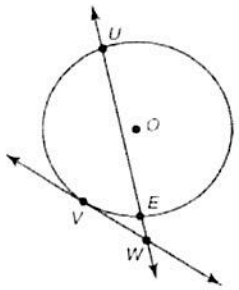
Use each diagram and the Secant Tangent Theorem to write an equation involving the secant and tangent segments.

51.



$(\overline{AT})(\overline{AB}) = (AX)^2$

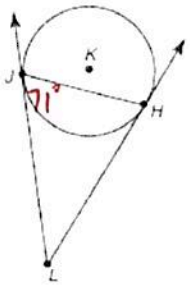
52.



$(\overline{WV})(\overline{WE}) = (\overline{WV})^2$

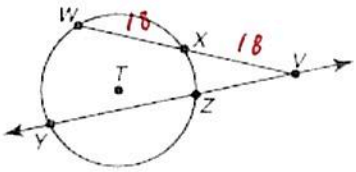
Tangents and Secants

53. In the figure shown, rays LJ and LH are tangent to circle K, and the measure of angle LJH is 71°. What is the measure of angle JLH? Explain your reasoning.



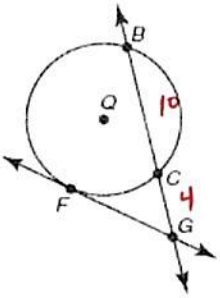
38°

54. In the figure shown, $WV = 36$ inches, point X is a midpoint of segment WV, and $YV = 40$ inches. What is YZ? Explain your reasoning.



23.8 in.

55. In the figure shown, line FG is tangent to circle Q, $BC = 10$ feet, and $CG = 4$ feet. What is FG? Explain your reasoning.



7.48 ft.

Study Chap 11 and your assignments!

The summary in the back of Chap 11 will be a good study guide!