PRACTICE & PROBLEM SOLVING

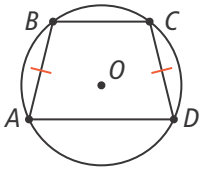
Scan for Multimedia

Practice Tutorial

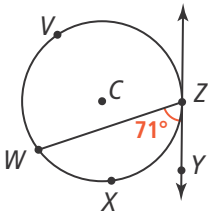
Additional Exercises Available Online

UNDERSTAND

17. Mathematical Connections Given $m\overset{\frown}{ABC} = x°$, what is an expression for $m\overset{\frown}{DAB}$ in terms of x? Explain.

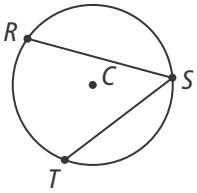


18. Error Analysis Casey is asked to find $m\overset{\frown}{WVZ}$. What is Casey's error?



$m\overset{\frown}{WVZ} = 360° - 71°$
$= 289°$ ✗

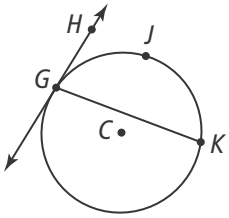
19. Higher Order Thinking Write a proof of the Inscribed Angles Theorem, Case 2.



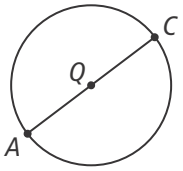
Given: Center C is inside $\angle RST$.

Prove: $m\angle RST = \frac{1}{2}m\overset{\frown}{RT}$

20. Construct Arguments Margaret measures $\angle HGK$ with a protractor and says that it is 98°. Is Margaret's answer reasonable? Explain.



21. Use Structure Given $\odot Q$ with diameter $\overline{AC}$, if point B is located on $\odot Q$, can $\angle ABC$ ever be less than 90°? Can it ever be greater than 90°? Explain.



PRACTICE

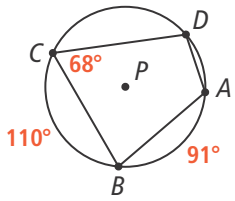
For Exercises 22–25, find each measure in $\odot P$.
SEE EXAMPLES 1 AND 2

22. $m\overset{\frown}{AD}$

23. $m\overset{\frown}{BDC}$

24. $m\angle ADC$

25. $m\angle BAD$

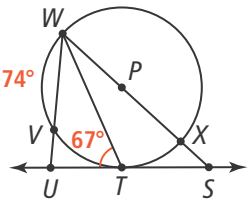


For Exercises 26–28, $\overleftrightarrow{SU}$ is tangent to $\odot P$ at point T. Find each measure. SEE EXAMPLES 2 AND 3

26. $m\overset{\frown}{TVW}$

27. $m\angle TWX$

28. $m\angle TWV$

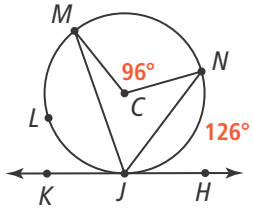


For Exercises 29–31, $\overleftrightarrow{HK}$ is tangent to $\odot C$ at point J. Find each measure. SEE EXAMPLES 3 AND 4

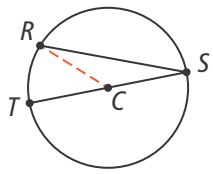
29. $m\angle KJM$

30. $m\angle MJN$

31. $m\angle HJN$



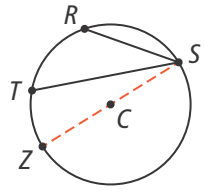
32. Write a proof of the Inscribed Angles Theorem, Case 1.



Given: Center C is on $\overline{ST}$.

Prove: $m\angle RST = \frac{1}{2}m\overset{\frown}{RT}$

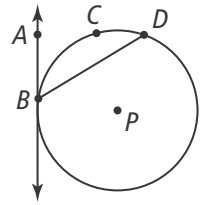
33. Write a proof of the Inscribed Angles Theorem, Case 3.



Given: Center C is outside $\angle RST$.

Prove: $m\angle RST = \frac{1}{2}m\overset{\frown}{RT}$

34. Write a two-column proof of Theorem 10-9.



Given: $\overleftrightarrow{AB}$ tangent to $\odot P$ at point B.

Prove: $m\angle ABD = \frac{1}{2}m\overset{\frown}{BCD}$

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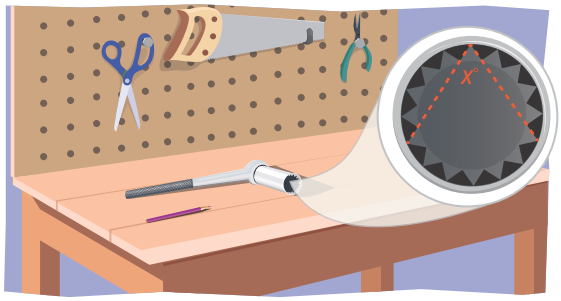
Mixed Review Available Online

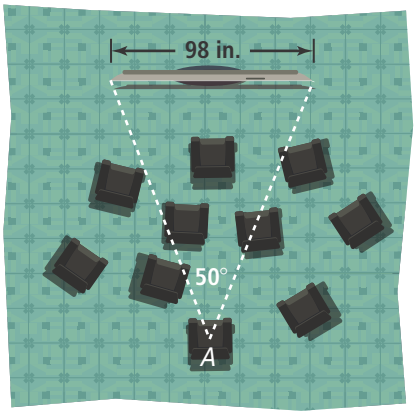
APPLY

35. Construct Arguments Deondra needs to know the angle measure for each notch in the 16-notch socket wrench she is designing. The notches will be the same size. What is the angle measure?



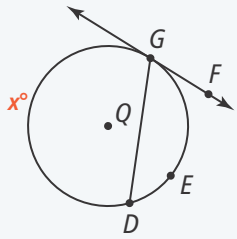
36. Use Structure Cheyenne wants to make a replica of an antique sundial using the fragment of the sundial she acquired. Is there enough information for her to determine the diameter of the sundial? Explain.

37. Use Appropriate Tools Malcom sets up chairs for a home theater showing on his television. His optimal viewing angle is 50°. Besides at chair A, where else could he sit with the same viewing angle? Draw a diagram and explain.

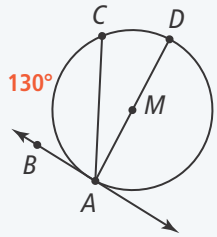


ASSESSMENT PRACTICE

38. Write an expression that represents $m\angle DGF$.



39. SAT/ACT Segment AB is tangent to $\odot M$ at Point A. What is $m\angle DAC$?



Ⓐ 25

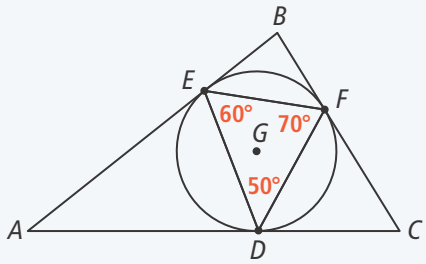
Ⓑ 65

Ⓒ 50

Ⓓ 90

Ⓔ 100

40. Performance Task Triangle DEF is inscribed in $\odot G$, and $\overline{AB}$, $\overline{BC}$, and $\overline{AC}$ are tangent to $\odot G$.



Part A Are there any isosceles triangles in the diagram? If so, explain why the triangles are isosceles. If not, explain why not.

Part B Are $\triangle ABC$ and $\triangle DEF$ similar? Explain.