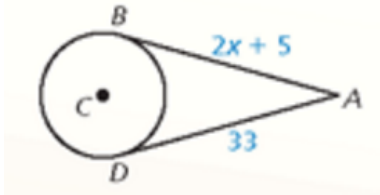


Unit 9: Circles Practice Problems

9.1 Lines and Segments That Intersect Circles

1. In the diagram, \overline{AB} is tangent to $\odot C$ at B and \overline{AD} is tangent to $\odot C$ at D . Find the value of x .

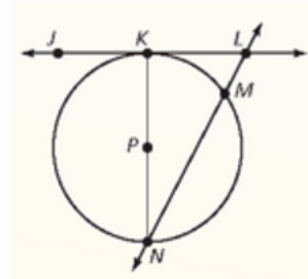


2. Tell whether the line, ray, or segment is best described as a *radius*, *chord*, *diameter*, *secant*, or *tangent* of $\odot P$.

A. \overline{PK}

B. \overline{NM}

C. \overrightarrow{JL}



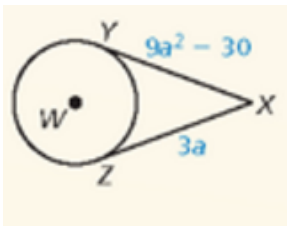
D. \overline{KN}

E. \overrightarrow{NL}

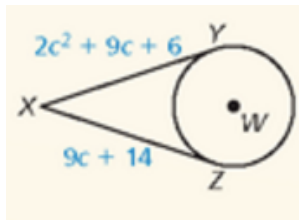
F. \overline{PN}

3. Points Y and Z are points of tangency. Find the value of the variable.

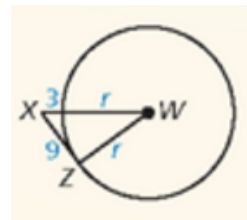
A.



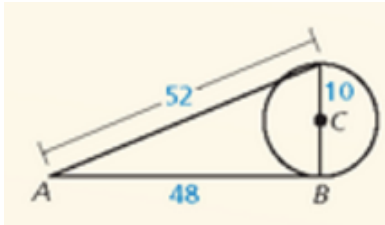
B.



C.



4. Tell whether \overline{AB} is tangent to $\odot C$. Explain.



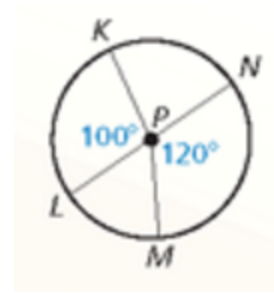
9.2 Finding Arc Measures

5. Find the measure of each arc of $\odot P$, where \overline{LN} is a diameter.

- A. \widehat{MN} B. \widehat{NLM} C. \widehat{NML}

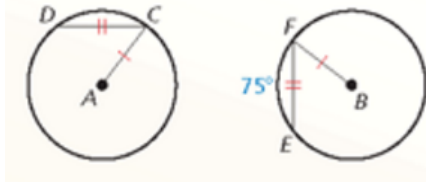
- D. \widehat{KL} E. \widehat{LM} F. \widehat{KM}

- G. \widehat{KN}

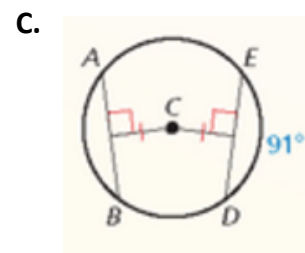
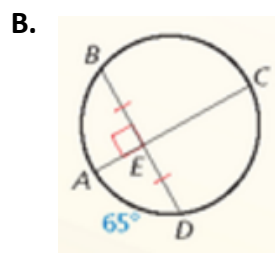
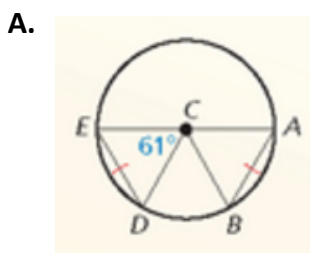


9.3 Using Chords

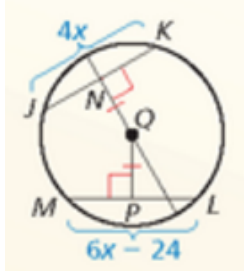
6. In the diagram, $\odot A \cong \odot B$, $\overline{CD} \cong \overline{FE}$, and $m\widehat{FE} = 75^\circ$. Find $m\widehat{CD}$.



7. Find the measure of \widehat{AB} .



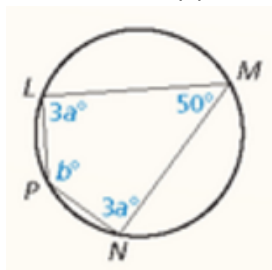
8. In the diagram, $QN = QP = 10$, $JK = 4x$, and $LM = 6x - 24$. Find the radius of $\odot Q$.



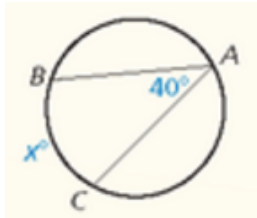
9.4 Inscribed Angles and Polygons

9. Find the value(s) of the variable(s).

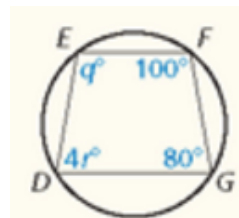
A.



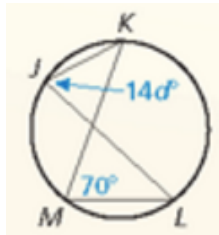
B.



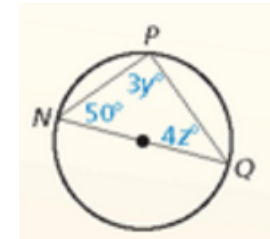
C.



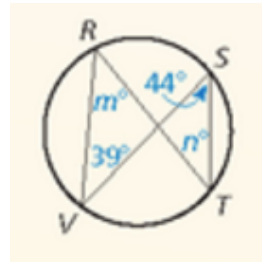
D.



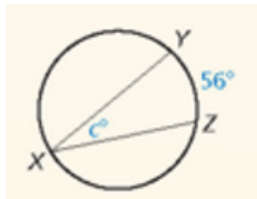
E.



F.

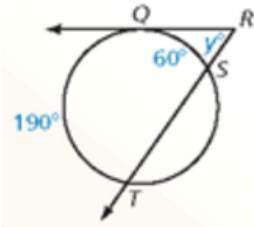


G.

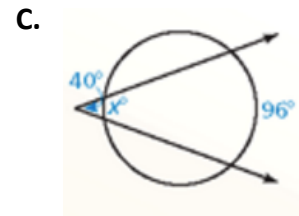
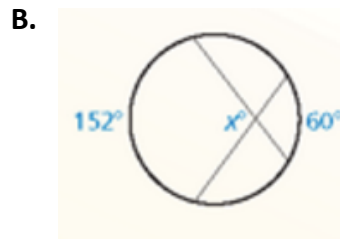
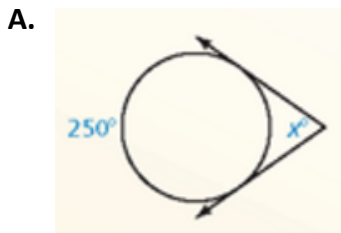


9.5 Angle Relationships in Circles

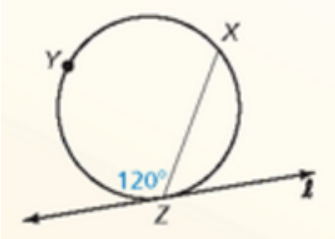
10. Find the value of y .



11. Find the value of x .

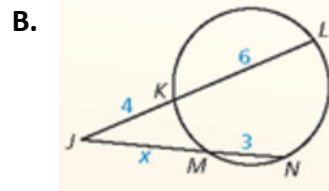
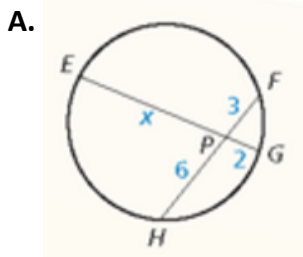


12. Line l is tangent to the circle. Find $m\widehat{XYZ}$.

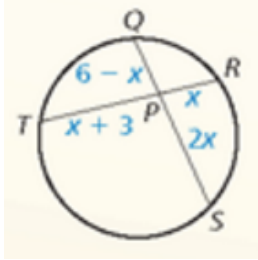


9.6 Segment Relationships in Circles

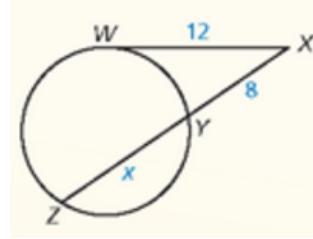
13. Find the value of x .



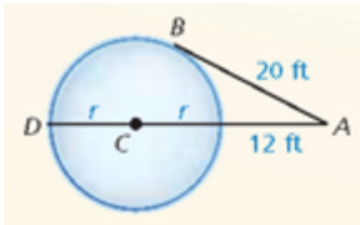
C.



D.



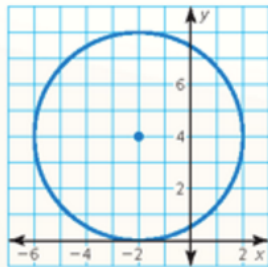
14. A local park has a circular ice skating rink. You are standing at point A , about 12 feet from the edge of the rink. The distance from you to a point of tangency on the rink is about 20 feet. Estimate the radius of the rink.



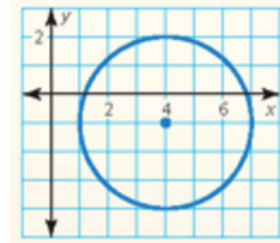
9.7 Circles in the Coordinate Plane

15. Write the standard equation of the circle shown.

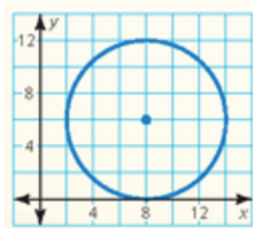
A.



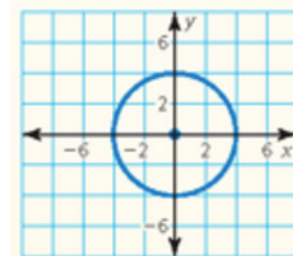
B.



C.



D.



16. Write the standard equation of the circle with the given center and radius.

A. center: $(0,0)$, radius: 9

B. center: $(-5,2)$, radius: 1.3

C. center: $(6,21)$, radius: 4

D. center: $(-3,2)$, radius: 16

E. center: $(10,7)$, radius: 3.5

F. center: $(0,0)$, radius: 5.2

17. The point $(-7,1)$ is on a circle with center $(-7,6)$. Write the standard equation of the circle.