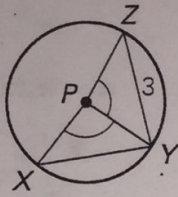
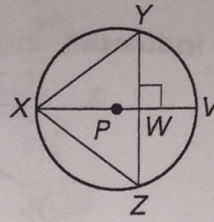


P is the center of the circle. Use the given information to find XY .

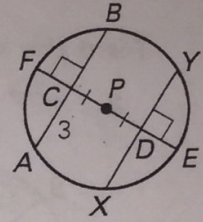
4. $ZY = 3$



5. $ZY = 6, XW = 4$

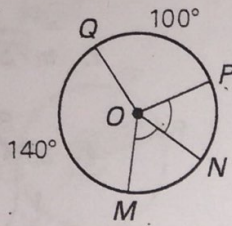


6. $CA = 3$

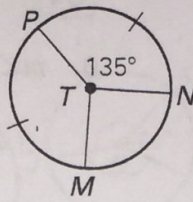


Find the measure of \widehat{MN} .

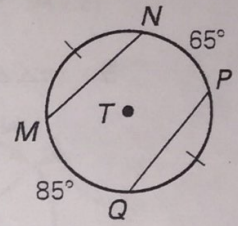
7.



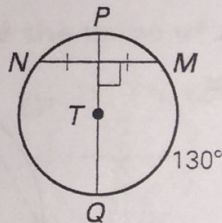
8.



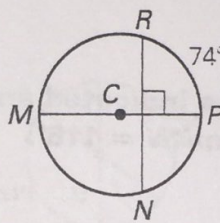
9.



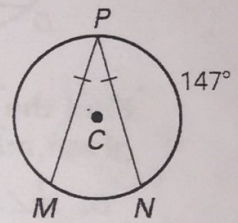
10.



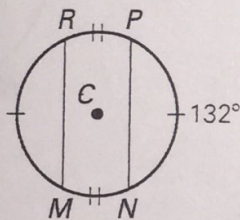
11.



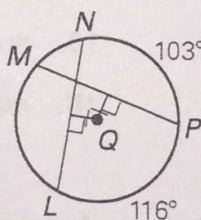
12.



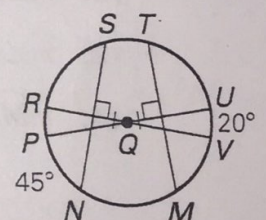
13.



14.



15.



\overline{AC} and \overline{BD} are diameters of $\odot E$. Find the measure of the given arc if $m\widehat{ACD} = 316^\circ$.

19. $m\widehat{AD}$

20. $m\widehat{BC}$

21. $m\widehat{BCA}$

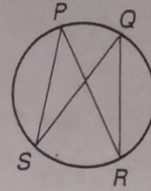
22. $m\widehat{DCB}$

23. $m\widehat{AB}$

24. $m\widehat{CDB}$

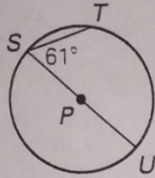
1. Multiple Choice In the figure shown, which statement is true?

- A. $\angle SPR \cong \angle PSQ$ B. $\angle RQS \cong \angle RPS$
 C. $\angle RPS \cong \angle PRQ$ D. $\angle PRQ \cong \angle SQR$

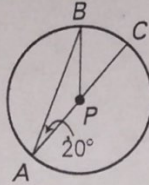


Find the measure of the indicated angle or arc in $\odot P$.

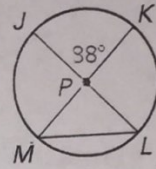
2. $m\widehat{ST}$



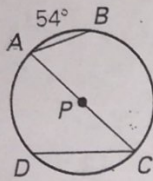
3. $m\widehat{AB}$



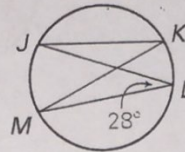
4. $m\angle JLM$



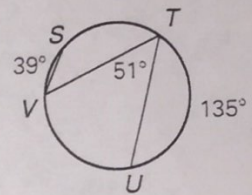
5. $m\angle A$



6. $m\angle K$



7. $m\widehat{VST}$



Find the measure of the indicated angle or arc in $\odot P$, given $m\widehat{LM} = 84^\circ$ and $m\widehat{KN} = 116^\circ$.

8. $m\angle JKL$

9. $m\angle MKL$

10. $m\angle KMN$

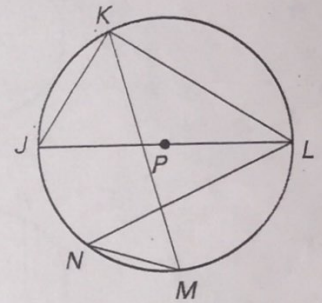
11. $m\angle JKM$

12. $m\angle KLN$

13. $m\angle LNM$

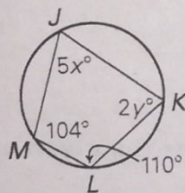
14. $m\widehat{MJ}$

15. $m\widehat{LKJ}$

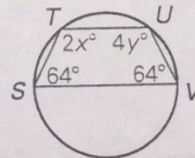


In Exercises 16–18, find the values of the variables.

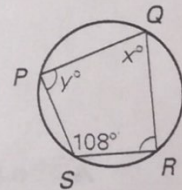
16.



17.

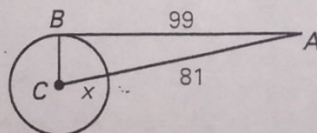


18.

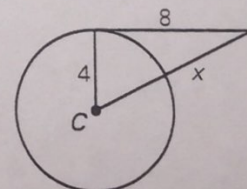


In the diagram, assume that segments are tangents if they appear to be. Find the value(s) of x .

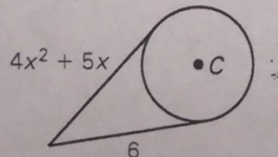
20.



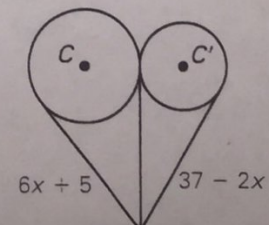
21.



22.

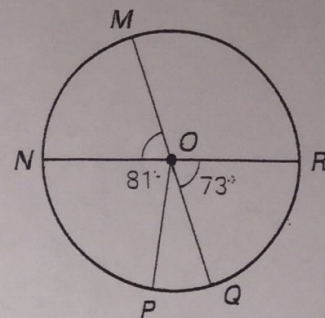


23.



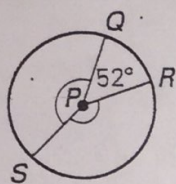
\overline{MQ} and \overline{NR} are diameters of $\odot O$. Determine whether the given arc is a *minor arc*, *major arc*, or *semicircle*. Then find the measure of the arc.

1. \widehat{MN}
2. \widehat{NQ}
3. \widehat{NQR}
4. \widehat{MRP}
5. \widehat{PN}
6. \widehat{MNQ}
7. \widehat{QR}
8. \widehat{MR}
9. \widehat{QMR}
10. \widehat{PQ}
11. \widehat{PRN}
12. \widehat{MQN}

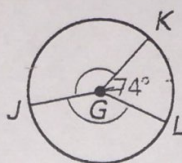


Find the indicated arc measure.

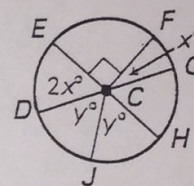
13. $m\widehat{QS}$



14. $m\widehat{LKJ}$



15. $m\widehat{DH}$



Find the value of x .

