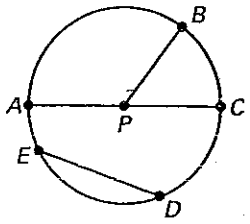
9.1 HW Part 1

Key

Practice and Apply

Use the figure of $\odot P$ below for Exercises 11–22.



11. Name the center of the circle. P

12. Name a radius of the circle. $\overline{AP}$, $\overline{BP}$, $\overline{CP}$

13. Name a chord of the circle. $\overline{AC}$, $\overline{DE}$

14. Name a diameter of the circle. $\overline{AC}$

15. Name a central angle of the circle. $\angle BPC$, $\angle APB$

16. Name a semicircle of the circle. $\overset{\frown}{ABC}$, $\overset{\frown}{AEC}$

17. Name two minor arcs of the circle. $\overset{\frown}{BC}$, $\overset{\frown}{AB}$

18. Name two major arcs of the circle. $\overset{\frown}{ACD}$, $\overset{\frown}{ADB}$

Identify the given part of $\odot P$.

19. $\overline{AP}$ radius **20.** $\overline{AC}$ diameter **21.** $\overline{ED}$ chord **22.** $\angle APB$ central angle

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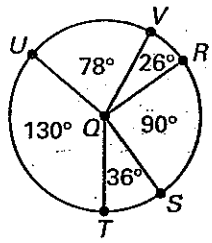
MG1 Homework Help for Exercises 23-30

Find the degree measure of each arc by using the central angle measures given in $\odot Q$ at right.



23. $\overset{\frown}{TU}$ 130° **24.** $\overset{\frown}{TSU}$ 230° **25.** $\overset{\frown}{RT}$ 126°

26. $\overset{\frown}{UR}$ 104° **27.** $\overset{\frown}{VS}$ 116° **28.** $\overset{\frown}{US}$ 194°

29. $\overset{\frown}{SUV}$ 244° **30.** $\overset{\frown}{VTR}$ 334°

$L = \frac{M}{360}(2\pi r)$

Determine the length of an arc with the given central angle measure, $m\angle P$, in a circle with the given radius, r. Round your answer to the nearest hundredth.

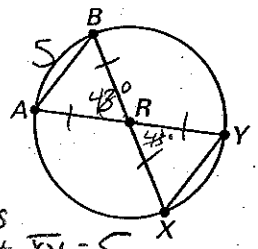
$5\pi \approx 15.71$ $\pi \approx 3.14$ $20\pi \approx 62.83$

31. $m\angle P = 90°$; $r = 10$ **32.** $m\angle P = 60°$; $r = 3$ **33.** $m\angle P = 30°$; $r = 120$

$M = \frac{360L}{2\pi r}$

Assume L is in terms of π

Determine the degree measure of an arc with the given length, L, in a circle with the given radius, r.

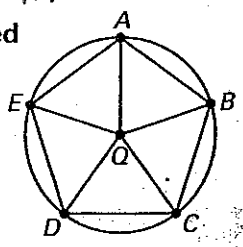


34. $L = 14$; $r = 70$ 36° **35.** $L = 20$; $r = 100$ 36°

36. $L = 3$; $r = 15$ 36° **37.** $L = 5$; $r = 25$ 36°

38. In $\odot R$ at right, if $m\angle ARB = 43°$ and $AB = 5$, find XY. Explain your reasoning. SAS - triangles are congruent $\overline{XY} = 5$

Suppose that *ABCDE* is a regular pentagon inscribed in $\odot Q$ and that $AQ = 2$. Find the following:



39. $m\angle AQB$ **40.** $m\overset{\frown}{AE}$ **41.** $m\overset{\frown}{ACE}$

42. length of $\overset{\frown}{AE}$ **43.** length of $\overset{\frown}{ACE}$

PROOF

44. Complete the converse of the Chords and Arcs Theorem below and prove your result.

The Converse of the Chords and Arcs Theorem

In a circle or in congruent circles, the chords of congruent arcs are ? .