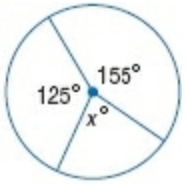
10-2 Measuring Angles and Arcs

Find the value of x.

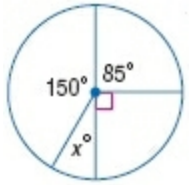
12.



ANSWER:

80

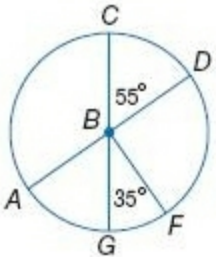
14.



ANSWER:

35

$\overline{AD}$ and $\overline{CG}$ are diameters of $\odot B$. Identify each arc as a *major arc, minor arc,* or *semicircle*. Then find its measure.



18. m(arc CFG)

ANSWER:

semicircle; 180

22. $m\widehat{AG}$

ANSWER:

minor arc; 55

24. **SHOPPING** The graph shows the results of a survey in which teens were asked where the best place was to shop for clothes.

a. What would be the arc measures associated with the mall and vintage stores categories?

b. Describe the kinds of arcs associated with the category "Mall"and category "None of these".

c. Are there any congruent arcs in this graph? Explain.

ANSWER:

a. 273.6, 14.4

b. major arc; minor arc

c. Yes; the arcs associated with the online and none of these categories have the same arc measure since each category accounts for the same percentage of the circle, 9%.

10-2 Measuring Angles and Arcs

ENTERTAINMENT Use the Ferris wheel shown to find each measure.

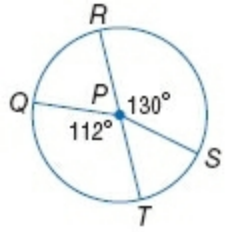
28. $m\widehat{JKF}$

ANSWER:
180

32. $m\widehat{HK}$

ANSWER:
100

Use $\odot P$ to find the length of each arc. Round to the nearest hundredth.



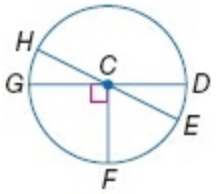
36. $\widehat{RS}$, if the radius is 2 inches

ANSWER:
4.54 in.

40. $\widehat{QRS}$, if $RT = 11$ feet

ANSWER:
19.01 ft

ALGEBRA In $\odot C$, $m\angle HCG = 2x$ and $m\angle HCD = 6x + 28$. Find each measure.



48. $m\widehat{EF}$

ANSWER:
52