

# 12.1: Central & Inscribed Angle & Arc Measures

Name Key Hr \_\_\_\_\_

True/False.

- The diameter is the longest possible chord. T
- The sides of an inscribed angle are chords. T
- A circle has only one radius. F
- A secant must pass through the center. F
- Given a point on a circle, there is only one possible tangent line that passes through that point. T
- If a central angle is  $80^\circ$  then the major arc that corresponds to that angle is  $100^\circ$ . F

Identify the term that best describes the given line, segment, or point.

7.  $\overline{AF}$  Diameter

8.  $\overline{PF}$  Radius

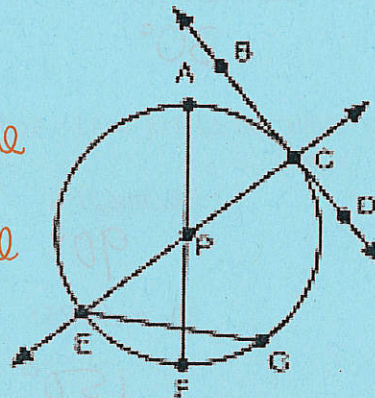
9.  $C$  Point of Tangency

10.  $\overline{BD}$  Tangent Line

11.  $\overline{EG}$  Chord

12.  $\overline{CE}$  Secant Line

13.  $P$  Center



Review Minor and Major Arcs. Give two examples of each of the following for Circle O.

14. a) Minor Arcs (less than  $180^\circ$ )

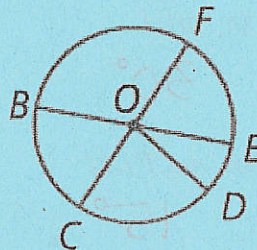
$\widehat{FE}, \widehat{ED}, \widehat{DC}, \widehat{CB}, \widehat{BF}, \widehat{FD}$

15. b) Major Arcs (more than  $180^\circ$ )

$\widehat{BFD}, \widehat{FCB}, \widehat{EDF}, \widehat{DBC}, \widehat{CBE}$

16. c) Semicircles ( $180^\circ$ )

$\widehat{BFE}, \widehat{CDF}, \widehat{BCE}$



# Inscribed Angles and Arcs

Show your work by filling out the diagrams.

In  $\odot W$ ,  $m\widehat{XZ} = 60^\circ$ ,  $m\angle VYZ = 40^\circ$ , and  $\overline{YZ}$  is a diameter. Find the following:

17.  $m\angle XYW$

$30^\circ$

18.  $m\angle XWZ$

$60^\circ$

19.  $m\angle XWY$

$120^\circ$

20.  $m\angle YVZ$

$90^\circ$

21.  $m\widehat{XYZ}$

$300^\circ$

22.  $m\widehat{VZ}$

$80^\circ$

23.  $m\widehat{XY}$

$120^\circ$

24.  $m\angle VZY$

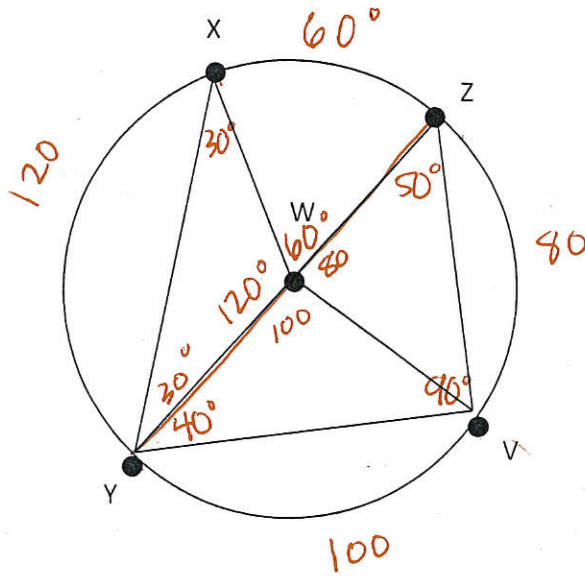
$50^\circ$

25.  $m\widehat{VY}$

$100^\circ$

26.  $m\angle WXY$

$30^\circ$



In circle P,  $m\angle LPJ = 30^\circ$ ,  $m\angle KMJ = 45^\circ$ , and  $JM$  is a diameter. Find the following:

27.  $m\angle LMP$

$15^\circ$

28.  $m\angle JPK$

$90^\circ$

29.  $m\angle MJK$

$45^\circ$

30.  $m\angle LPM$

$150^\circ$

31.  $m\widehat{MLJ}$

$180^\circ$

32.  $m\angle MPK$

$90^\circ$

33.  $m\angle JKP$

$45^\circ$

34.  $m\widehat{LJ}$

$30^\circ$

35.  $m\widehat{KM}$

$90^\circ$

36.  $m\angle PLM$

$15^\circ$

37.  $m\widehat{JK}$

$90^\circ$

38.  $m\angle KJP$

$45^\circ$

39.  $m\widehat{ML}$

$150^\circ$

40.  $m\angle PKM$

$45^\circ$

