

Bellwork

03/09/2012

Give the name that best describes the figure.

1. \overline{CD}

Secant

2. \overline{AB}

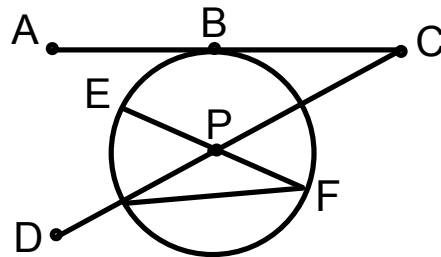
Tangent

3. \overline{FE}

Diameter

4. \overline{EP}

Radius



Geometry
10.2 Find Arc Measures
Standard(s): 3, 4

Vocabulary:

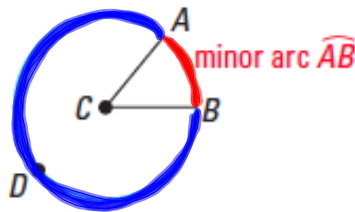
Central Angle: An angle whose vertex is the center of the circle.

Semicircle: An arc with endpoints that are the endpoints of the diameter.

Minor Arc: An arc of a measure less than 180°

Minor arcs are named

ex. $\angle ACB$ would



Major Arc: An arc of a measure greater than or equal to 180° .

Major arcs are named by their endpoints and a point on the arc.

ex. $\angle ACB$ would be named \widehat{ADB}

KEY CONCEPT *For Your Notebook*

Measuring Arcs

The measure of a minor arc is the measure of its central angle. The expression $m\widehat{AB}$ is read as "the measure of arc AB."

The measure of the entire circle is 360° . The measure of a major arc is the difference between 360° and the measure of the related minor arc. The measure of a semicircle is 180° .

Adjacent Arcs: Two arcs of the same circle that share a common endpoint.

POSTULATE *For Your Notebook*

POSTULATE 23 Arc Addition Postulate

The measure of an arc formed by two adjacent arcs is the sum of the measures of the two arcs.

Congruent Circles: Two circles with the same radius.

Congruent Arcs: Two arcs with the same measure of the same circle or congruent circles.

Identify Arcs

\overline{AB} and \overline{FE} are diameters of circle C . Determine whether the given arc is a *minor arc*, *major arc*, or *semicircle*.

\widehat{AE} Minor

\widehat{BDA} Semi

\widehat{AEB} Semi

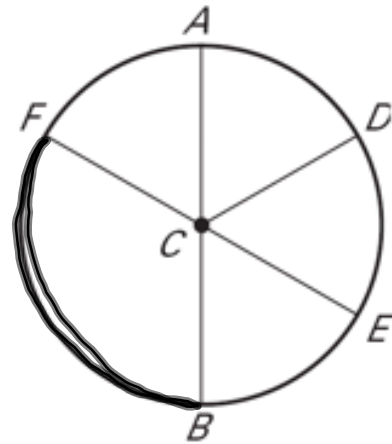
\widehat{FDE} Semi

\widehat{DFB} Major

\widehat{FA} Minor

\widehat{BE} Minor

\widehat{FB} Minor



Find Arc Measures

In circle O , \overline{MQ} and \overline{NR} are diameters. Find the indicated measure.

$$\widehat{MN} = 70^\circ$$

$$\widehat{QR} = 70^\circ$$

$$\widehat{NQ} = 110^\circ$$

$$\widehat{MR} = 110^\circ$$

$$\widehat{NQR} = 180^\circ$$

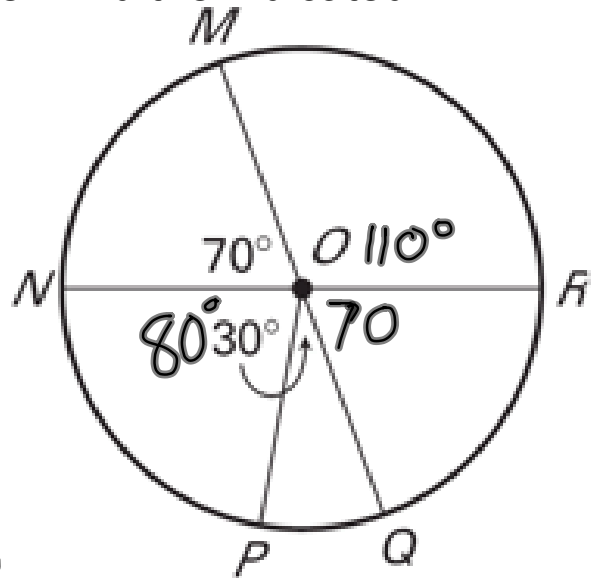
$$\widehat{QMR} = 290^\circ$$

$$\widehat{MRP} = 210^\circ$$

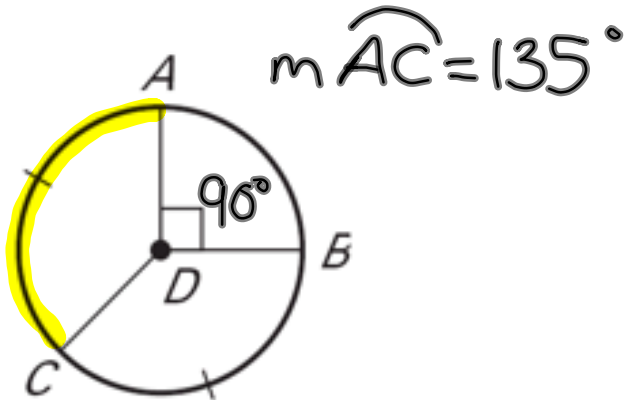
$$\widehat{PQ} = 30^\circ$$

$$\widehat{PRN} = 280^\circ$$

$$\widehat{QMN} = 250^\circ$$

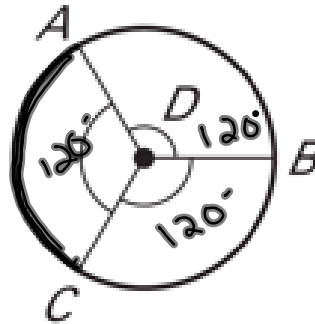


Arc Measures Cont.

Find $m\widehat{AC}$.

$$360 - 90 = 270$$

$$270 \div 2 = 135$$

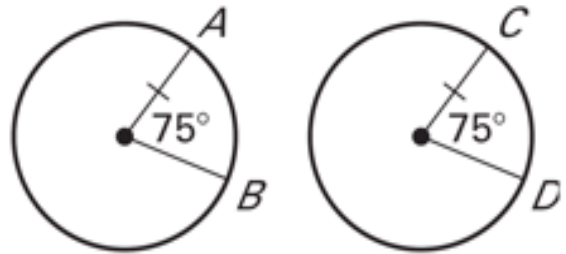
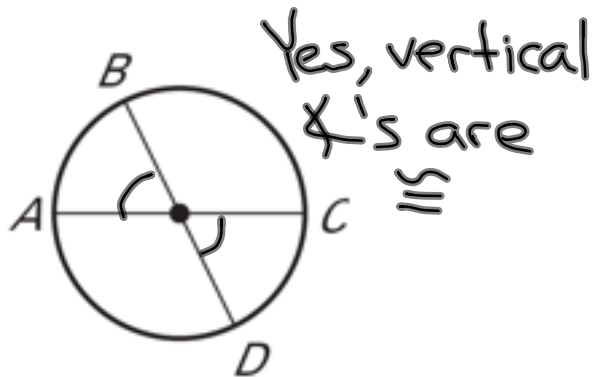
Find $m\widehat{CA}$.

$$360 \div 3 = 120^\circ$$

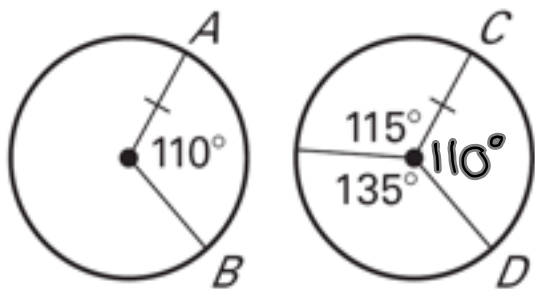
$$m\widehat{CA} = 120^\circ$$

Congruent Arcs

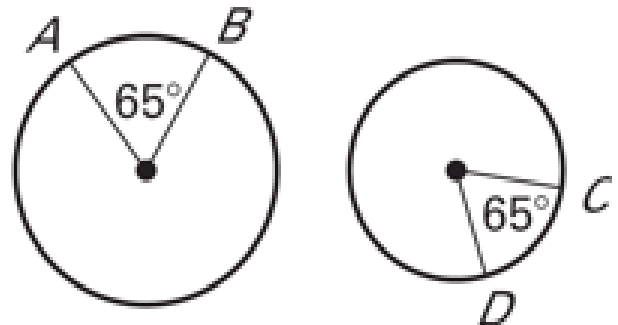
Tell whether $\widehat{AB} \cong \widehat{CD}$. Explain.



Yes, def. of \cong
 \odot 's + arcs



Yes, def. of \cong
 \odot 's + arcs



No! \odot 's are not \cong

Homework Assignment

Worksheet 10.2B

