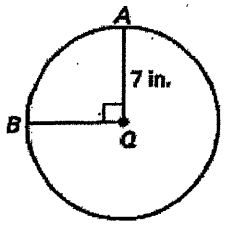
Formula for Arc Length:

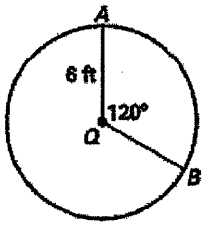
Recall $\frac{Part}{Whole} = \frac{Part}{Whole}$ $\frac{L}{Circumference} = \frac{m\widehat{AB}}{360^o}$ or $\frac{L}{2\pi r} = \frac{m\widehat{AB}}{360^o}$

Find the length of $\widehat{AB}$

9.

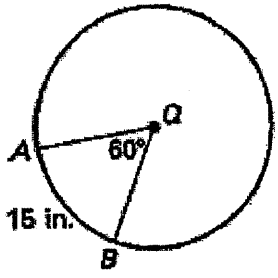


10.



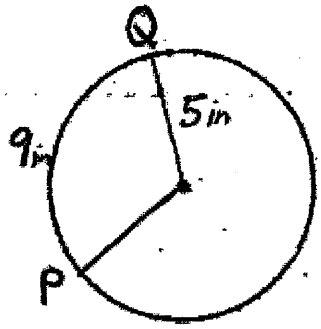
14. Find the indicated measure:

Circumference

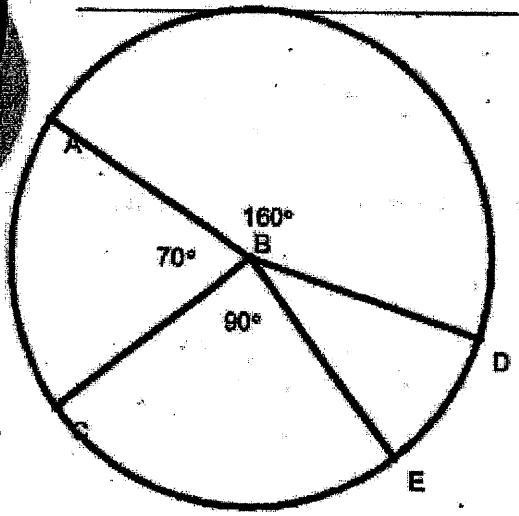


15. Find the indicated measure:

Find $m\widehat{PQ}$



Warm Up



Find:

$m\widehat{AC}$:

$m\widehat{CE}$:

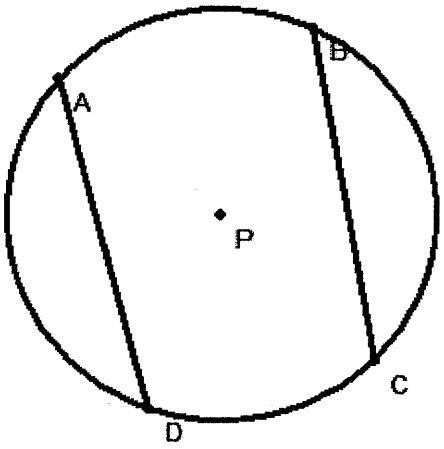
$m\widehat{ED}$:

$m\widehat{AD}$:

$m\widehat{ACE}$:

10-3 Arcs and Chords Notes

Theorem: In the same circle, or in congruent circles, two minor arcs are congruent iff their corresponding chords are _____.

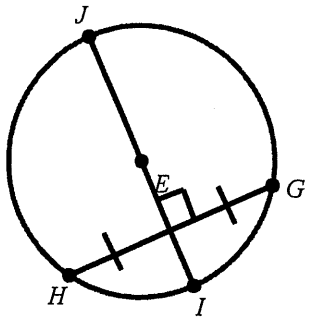


In $\odot P$, $\overline{AD}$ and $\overline{BC}$ are congruent.

1) If $m\overset{\frown}{AD} = 95°$, find $m\overset{\frown}{BC}$.

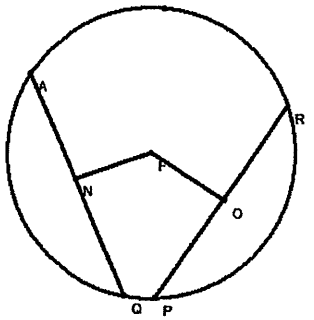
2) If $m\overset{\frown}{AB} = 45°$ and $m\overset{\frown}{CD} = 35°$, find $m\overset{\frown}{BC}$

Theorem: If one chord is a perpendicular bisector of another chord, then the first chord is a _____.



Theorem: If a diameter of a circle is perpendicular to a chord, then the diameter bisects the chord and its arc.

Theorem: In the same circle, or in congruent circles, two chords are congruent iff they are equidistant from the center.



If $\overline{FN} \cong \overline{FO}$, $m\angle N = 90°$, $m\angle O = 90°$ and $\overline{RP} = 14$, find $\overline{AQ}$

If $\overline{FN} \cong \overline{FO}$, $m\angle N = 90°$ and $m\angle O = 90°$ solve for x if $\overline{RP} = 9x + 21$ and $\overline{AQ} = 14x - 9$

LESSON 6.3

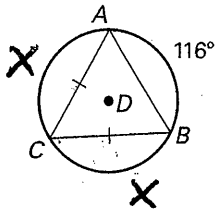
Exercise Set A

MM2G3a Understand and use properties of chords, tangents, and secants as an application of triangle similarity.

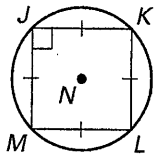
MM2G3d Justify measurements and relationships in circles using geometric and algebraic properties.

Find the measure of the given arc or chord.

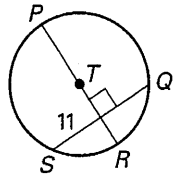
1. $m\widehat{BC}$



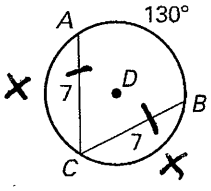
2. $m\widehat{LM}$



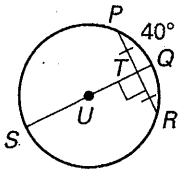
3. $\overline{QS}$



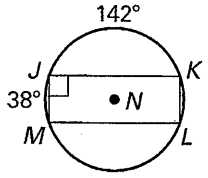
4. $m\widehat{AC}$



5. $m\widehat{PQR}$

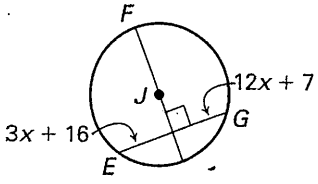


6. $m\widehat{KLM}$

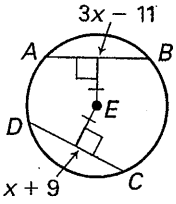


Find the value of *x*.

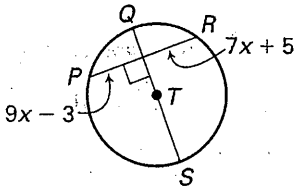
7.



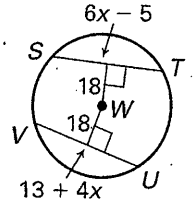
8.



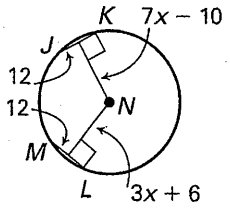
9.



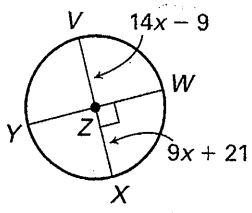
10.



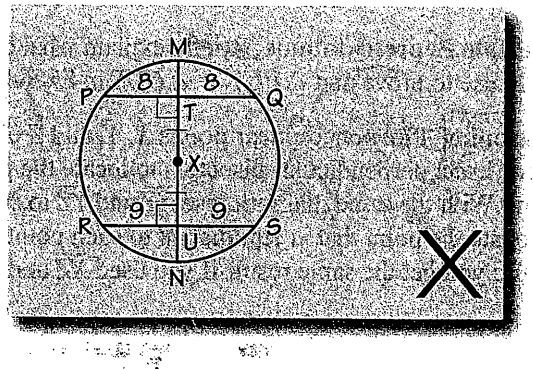
11.



12.



13. Error Analysis *Explain* what is wrong with the diagram of $\odot X$.



UNIT 6

LESSON 6.3

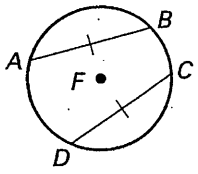
Exercise Set B

MM2G3a Understand and use properties of chords, tangents, and secants as an application of triangle similarity.

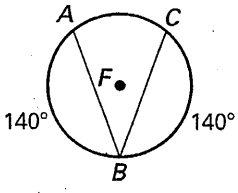
MM2G3d Justify measurements and relationships in circles using geometric and algebraic properties.

What can you conclude about the diagram? State a theorem that justifies your answer.

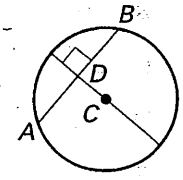
1.



2.

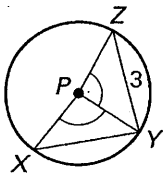


3.

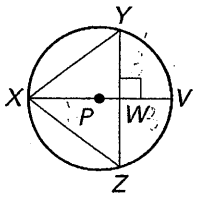


***P* is the center of the circle. Use the given information to find *XY*.**

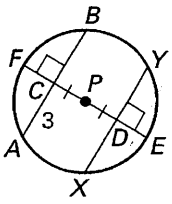
4. $ZY = 3$



5. $ZY = 6, XW = 4$

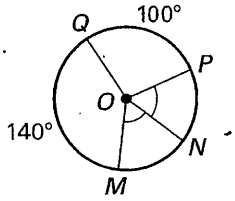


6. $CA = 3$

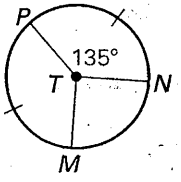


Find the measure of $\overset{\frown}{MN}$.

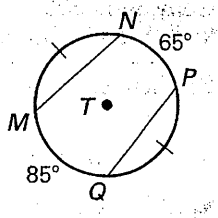
7.



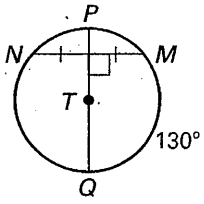
8.



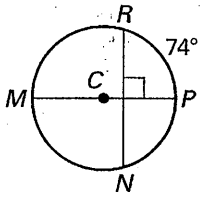
9.



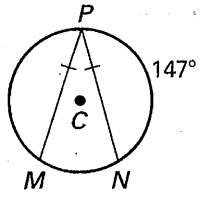
10.



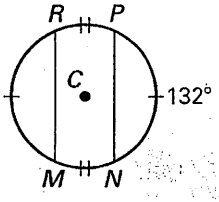
11.



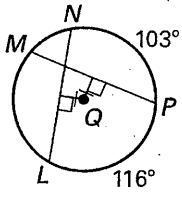
12.



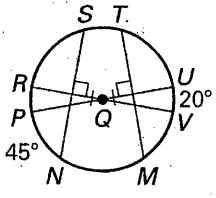
13.



14.



15.



UNIT 6