

1. 165°
definition of measure of an arc

2. 84°
Chord Arcs Conj.

3. 70°
Chord Central Angles Conj.

4. 8 cm
Chord Distance to Center Conj.

5. $m\widehat{AC} = 68^\circ$; $m\angle B = 34^\circ$ (Because $\triangle OBC$ is isosceles, $m\angle B = m\angle C$, $m\angle B + m\angle C = 68^\circ$, and therefore $m\angle B = 34^\circ$.)

Chord Central Angles Conj. definition of measure of an arc

6. $w = 115^\circ$
 $x = 115^\circ$
 $y = 65^\circ$

Chord Arcs Conjecture

7. 20 cm

Perpendicular to a Chord Conj.

8. $w = 110^\circ$
 $x = 48^\circ$
 $y = 82^\circ$
 $z = 120^\circ$

definition of an arc measure

9. 96°
 96°
 42°

$x = 96^\circ$, Chord Arcs Conjecture; $y = 96^\circ$, Chord Central Angles Conjecture; $z = 42^\circ$, Isosceles Triangle Conjecture and Triangle Sum Conjecture.

10. $x = 66^\circ$
 $y = 48^\circ$
 $z = 66^\circ$

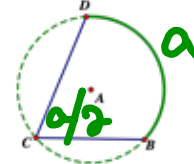
Corresponding Angles Conjecture, Isosceles Triangle Conjecture, Linear Pair Conjecture

11. The length of the chord is greater than the length of the diameter.

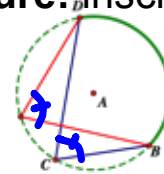
12. The perpendicular bisector of the segment does not pass through the center of the circle.

Investigation 9.3 on Sketchpad

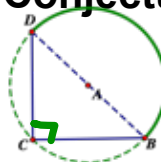
Inscribed Angle Conjecture: the measure of an angle inscribed in a circle is one-half the measure of the intercepted arc



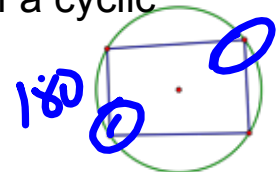
Inscribed Angles Intercepting Arcs Conjecture: inscribed angles that intercept the same arc are congruent



Angles Inscribed in a Semicircle Conjecture: angles inscribed in a semicircle are right angles



Cyclic Quadrilateral Conjecture: the opposite angles of a cyclic quadrilateral are supplementary



Parallel Lines Intercepted Arcs Conjecture: parallel lines intercept congruent arcs on a circle

