warm-up   3-3

inscribed angle

120°

240°

240° C • 120°

120°

120°

B

D

A

1. m $\overarc{AD}$ = 120°

2. m $\overarc{ABD}$ = 240°

3. m ∠ ACD = 240°

4. m ∠ ABD = $\frac{120°}{2}$ = 60°

5. m $\overarc{BD}$ = 120°

6. m $\overarc{BA}$ = 120°

G7-2 NOTES – Properties of chords and tangent lines:

Vocabulary:

Chord A segment with endpoints on the edge of the circle. $\overline{AB}$

A

B

C

D
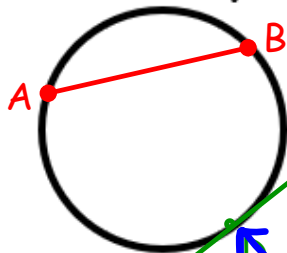
Tangent line   -
    A line that touches the circle at only one point.
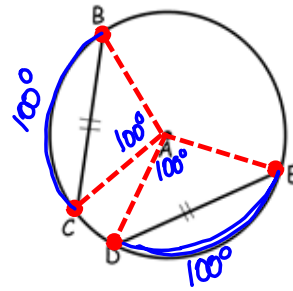
Point of Tangency

1

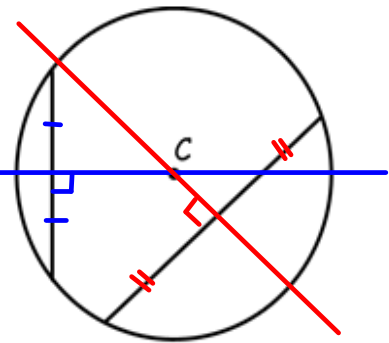NOTES – Properties of chords and tangent lines:

<u>Congruent chord properties</u>:

- If two chords on a circle are congruent, they determine <u>congruent central angles</u>.
  and congruent arcs.

  ∠CAB   ∠DAE   and $\overarc{BC}$ $\overarc{DE}$

<u>The perpendicular bisector of a chord</u> ALWAYS

goes through the center.

With two chords you can find the center of any circle

<u>Tangent line properties:</u>

- A tangent line to a circle is ALWAYS
  <u>perpendicular to the radius.</u>
  so. <u>m∠ ABC = 90⁰</u>

- Tangent segments to a circle from a
  point outside the circle
  <u>   are congruent.   </u>.

so, <u> $\overline{AB}$ $\overline{AD}$ </u>