Date _____ Geometry

Parallel and Congruent Chords

1. In the diagram below of circle O, chord \overline{AB} chord \overline{CD} , and chord \overline{CD} chord \overline{EF} .

Which statement must be true?

- 1) $\widehat{CE} \cong \widehat{DF}$
- 2) $\widehat{AC} \cong \widehat{DF}$
- 3) $\widehat{AC} \cong \widehat{CE}$
- 4) $\widehat{EF} \cong \widehat{CD}$
- 2. In the diagram below of circle O, chord \overline{AB} is parallel to chord \overline{CD} .

Which statement must be true?

- 1) $\widehat{AC} \cong \widehat{BD}$
- 2) $\widehat{AB} \cong \widehat{CD}$
- 3) $\frac{AB}{AB} \cong \frac{OD}{CD}$
- 4) $\widehat{ABD} \cong \widehat{CDB}$

3. In the diagram below of circle *O* with diameter \overline{BC} and radius \overline{OA} , chord \overline{DC} is parallel to chord \overline{BA} .

If $m \angle BCD = 30^\circ$, determine and state $m \angle AOB$.

4. In the diagram of circle O below, chords \overline{AB} and \overline{CD} are parallel, and \overline{BD} is a diameter of the circle.



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5. In the diagram of circle O below, chord \overline{CD} is parallel to diameter \overline{AOB} and $\widehat{mAC} = 30$.

4) 60





- 7. In the circle provided, $\overline{AC} \cong \overline{CE}$. If $m \angle ACE = 80^{\circ}$, find CE.
- 8. In the circle provided, $\overline{RN} \cong \overline{RQ}$. If RN = 140°, find $m \angle NRQ$.
- 9. In the circle provided, $\overline{FO} \cong \overline{OX}$. If $m \angle FOX = 60^{\circ}$, find FO









