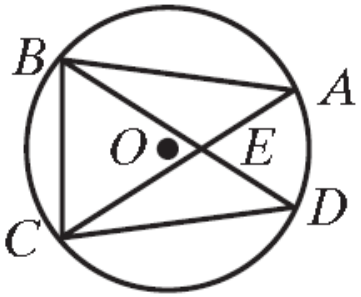
Name: _____

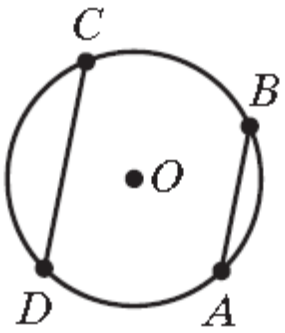
Inscribed Angles and Their Measures

Exercise 1: Chords $\overline{AC}$ and $\overline{BD}$ of the circle with center O intersect at E. If $AB \cong CD$,prove that $\triangle ABC \cong \triangle DCB$



Exercise 2: In a circle of center O, ABC is a minor arc and ADC is a major arc.

1) Given: $\overline{AB} \perp \overline{CD}$. Prove that: $AD \cong BC$
2) Given: $AD \cong BC$. Prove that: $\overline{AB} \perp \overline{CD}$



Exercise 3: In a circle of center O, $\overline{AOC}$ and $\overline{BOD}$ are diameters. Prove that $\overline{AB} \perp \overline{CD}$

Exercise 4: A pair of opposite sides of a cyclic quadrilateral is equal. Prove that its diagonals are also equal

Exercise 5: ABCD is a quadrilateral. If $m\angle$A = $m\angle$BCE, is ABCD a cyclic quadrilateral? Give reasons.