10.3 Circles: Properties of Chords

Chord: a segment with endpoints on the circle.

Diameter: a chord that goes through the center.

Theorem 10.3: In the same circle (or in 2 congruent circles) 2 minor arcs are congruent **iff** their corresponding chords are congruent.

Theorem 10.4: If one chord is the perpendicular bisector of another chord, then the first chord is a diameter.

Theorem 10.5: (converse) If a diameter is perpendicular to a chord then it bisects the chord, and its corresponding arc.

Theorem 10.6: In the same circle (or in 2 congruent circles), 2 chords are congruent **iff** they are equidistant to the center.

Remember: The distance from a point to a segment is the length of the perpendicular segment from the point to the segment.