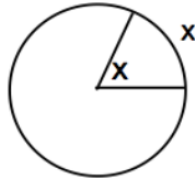


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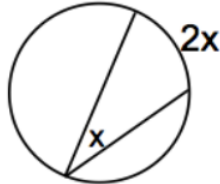
Central Angles:

The measure of a central angle is equal to the measure of the intercepted arc.

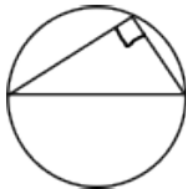


Inscribed Angles:

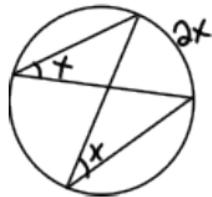
A) The measure of an inscribed angle is half the measure of the intercepted arc.



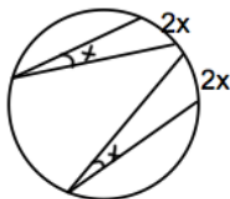
B) An angle inscribed in a semicircle must be a right angle.



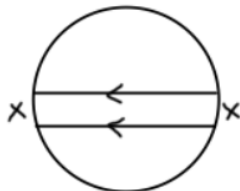
C) Inscribed angles that intercept the same arc are congruent.



D) Inscribed angles that intercept congruent arcs are congruent.



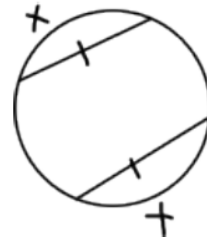
E) Parallel chords intercept congruent arcs.



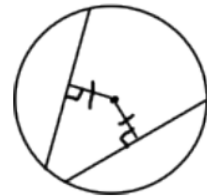
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Congruent Chords:

A) Congruent chords intercept congruent arcs.

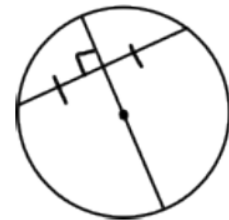


B) Congruent chords are equidistant to the center of the circle.



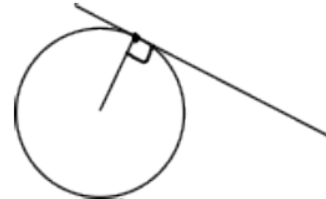
Perpendicular Bisectors of Chords:

A perpendicular bisector of a chord must go through the center of the circle.

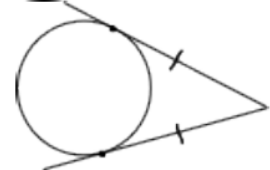


Tangent Lines:

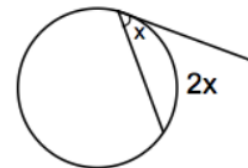
A) A tangent line and a radius are perpendicular.



B) Tangent segments from the same external point are congruent.



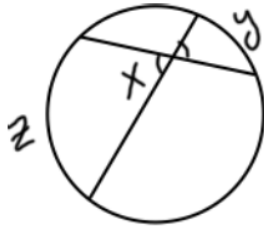
C) An angle formed by a chord and a tangent line at the point of tangency is half the measure of the intercepted arc.



CIRCLE CHEAT SHEET

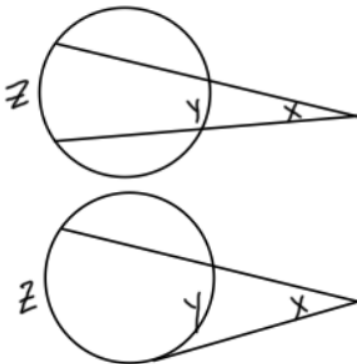
Floating Angles:

A) The measure of an angle formed by two lines that intersect inside a circle is the average of the measure of the intercepted arcs.



$$x = \frac{y+z}{2}$$

B) The measure of an angle formed by two lines that intersect outside a circle is half the difference of the intercepted arcs.



$$x = \frac{z-y}{2}$$

Vocabulary:

Major Arc: An arc measuring greater than 180 degrees

Minor Arc: An arc measuring less than 180 degrees

Central Angle: An angle formed by two radii with its vertex at the center of the circle

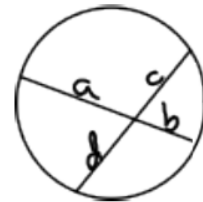
Chord: A line segment whose endpoints both lie on the circle

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Lengths of Segments of Chords, Secants and Tangents:

A) Chord Segments:

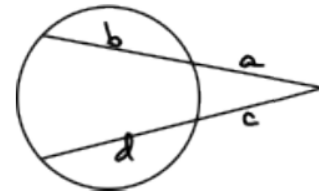
If two chords intersect, the product of the measures of the segments of one chord is equal to the product of the measures of the segments of the other.



$$ab = cd$$

B) Secant Segments:

If two secant segments are drawn to a circle from an external point, then the product of the lengths of one secant segment and its external segment is equal to the product of the lengths of the other secant segment and its external segment.



$$a(a + b) = c(c + d)$$

C) Tangent-Secant Segments

If a tangent and a secant are drawn to a circle from an external point, then the square of the length of the tangent segment is equal to the product of the length of the secant segment and its external segment.

$$a^2 = b(b+c)$$

