

Geometry
Guided Notes

Name: _____

Angle Relationships in Circles

Date: _____ Period: _____

Theorem - If a _____ and a _____ intersect at a point on the circle, then the measure of each angle formed is half the measure of its intercepted arc.

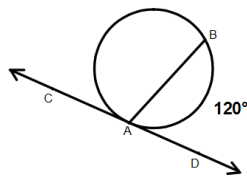
Theorem - If _____ intersect in the interior of a circle, then the measure of each angle is _____ of the measures of the arcs intercepted by the angle and its vertical angle.

Theorem - If a _____ and a _____, **two tangents** or **two secants** intersect in the _____ of a circle, then the measure of the angle formed is **half the difference** of the measures of the intercepted arcs.

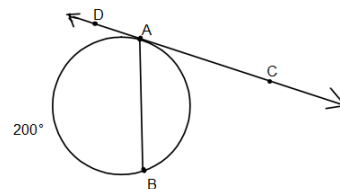
Examples of the first theorem:

\overleftrightarrow{CD} is tangent to the given circle.

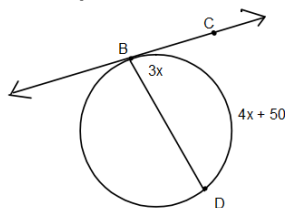
Example #1: Find $m\angle BAD$.



Example #2: Find $m\angle BAC$.



Example #3: Find $m\angle CBD$.



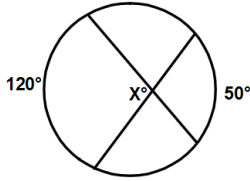
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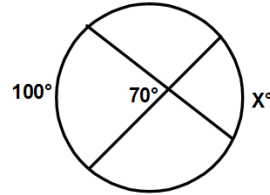
Date: _____ Period: _____

Examples of the second theorem:

Example #4: Find x .

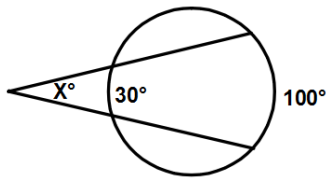


Example #5: Find x .

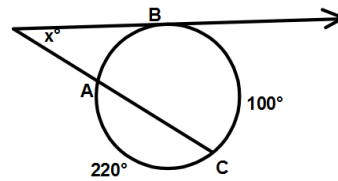


Examples of the third theorem:

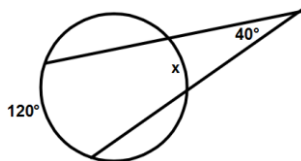
Example #6: Find x .



Example #7: Find x .



Example #8: Find x .



Example #9: Find x .

