

Geometry
Guided Notes

Name: _____

Exploring Circles

Date: _____ **Period:** _____

Circle is from the Latin word *circus* meaning "_____ " or "racecourse."

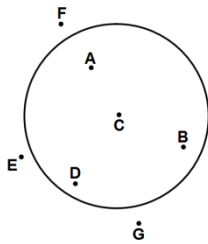
circle - the set of all points in a plane that are _____ from a given point called the _____ of the circle.

Naming a circle : If the center of the circle is **point C**, then the circle is named $\odot C$.

The _____ of a circle is all points inside the circle.

The _____ of a circle is all points outside the circle.

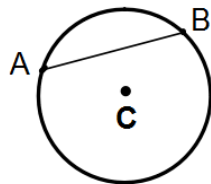
Circle C - $\odot C$



Points on the interior:

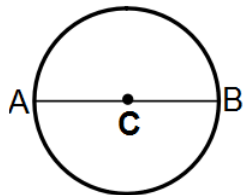
Points on the exterior:

Chord - a _____ whose endpoints are on the circle



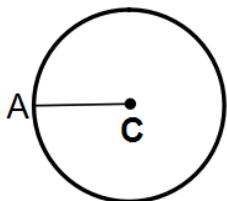
\overline{AB} is the chord of $\odot C$

diameter - a _____ that passes through the _____ of the circle (also refers to the distance across the circle)



\overline{AB} is the diameter of $\odot C$

radius - a segment that has the _____ as one of its endpoints and a _____ on the circle as the other endpoint (also refers to the distance from the center of the circle to a point on the circle)



\overline{CA} is a radius of $\odot C$

CA is the radius of $\odot C$

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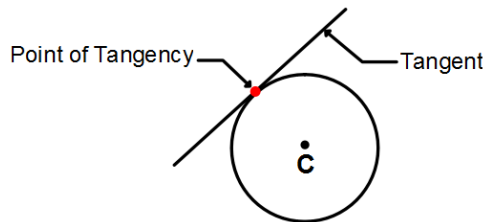
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By the definition of a circle, **all radii of a circle are** _____.

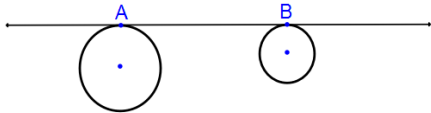
The diameter is twice the radius: $d = 2r$, therefore $r = 1/2 d$

tangent - a line in the plane of a circle that intersects a circle at exactly one point

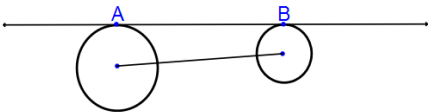
point of tangency - the point where the tangent intersects the circle



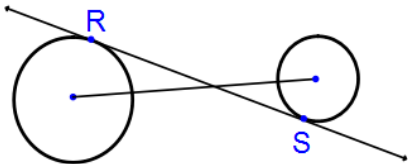
common tangent - a line that is tangent to two coplanar circles



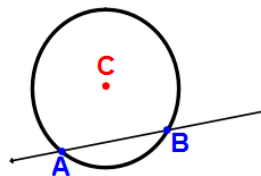
common external tangent - a common tangent that does not intersect the segment that joins the centers of the circles



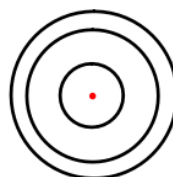
common internal tangent - a common tangent that intersects the segment that joins the centers



secant - a line that intersects a circle at two points



concentric - circles that have the same center



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Two circles are congruent if _____

Two circles that have no points of intersection:

Two circles that have exactly one point of intersection:

Internally Tangent

Externally Tangent

Two circles that have exactly two points of intersection:

Two circles that intersect at an infinite number of points: