

Teacher / Team Name: Geometry Regular

Topic: Unit 9: Properties of Circles (REG)

Days: 12

Subject(s): Math

Grade(s): 9th, 10th, 11th, 12th

Know:

Understand:

Do:

<p>Key Vocabulary</p> <p>Circumference formula</p> <p>Circle postulates</p> <p>Circle theorems</p>	<p>Relationships between circles and the lines and segments that intersect the circle will be understood and used.</p>	<p>Identify and use parts of circles</p> <p>Solve problems involving the circumference of a circle</p> <p>Identify central angles, major arcs, minor arcs, and semicircles and find their measures</p> <p>Find arc lengths</p> <p>Recognize and use relationships between arcs and chords</p> <p>Recognize and use relationships between arcs, chords, and diameters</p> <p>Find measures of inscribed angles</p> <p>Find measures of angles of inscribed polygons</p> <p>Use properties of tangents</p> <p>Solve problems involving circumscribed polygons</p> <p>Find measures of angles formed by lines intersecting on or inside the circle</p> <p>Find measures of angles formed by lines intersecting outside the circle</p> <p>Find measures of segments that intersect in the interior of a circle</p> <p>Find measures of segments that intersect on the exterior of a circle</p> <p>Write an equation of a circle</p> <p>Graph a circle in the coordinate plane</p>
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Which standards are students learning in this unit?

MA.912.G.6.1: Determine the center of a given circle. Given three points not on a line, construct the circle that passes through them. Construct tangents to circles. Circumscribe and inscribe circles about and within triangles and regular polygons.

MA.912.G.6.2: Define and identify: circumference, radius, diameter, arc, arc length, chord, secant, tangent and concentric circles .

MA.912.G.6.3: Prove theorems related to circles, including related angles, chords, tangents, and secants.

MA.912.G.6.4: Determine and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).

MA.912.G.6.6: Given the center and the radius, find the equation of a circle in the coordinate plane or given the equation of a circle in center-radius form, state the center and the radius of the circle.

MA.912.G.6.7: Given the equation of a circle in center-radius form or given the center and the radius of a circle, sketch the graph of the circle.

MA.912.G.8.2 Use a variety of problem-solving strategies, such as drawing a diagram, making a chart, guess-and-check, solving a simpler problem, writing an equation, and working backwards.

MA.912.G.8.4: Make conjectures with justifications about geometric ideas. Distinguish between information that supports a conjecture and the proof of a conjecture.

MA.912.G.8.5: Write geometric proofs, including proofs by contradiction and proofs involving coordinate geometry. Use and compare a variety of ways to present deductive proofs, such as flow charts, paragraphs, two-column, and indirect proofs.

MA.912.G.8.6: Perform basic constructions using straightedge and compass, and/or drawing programs describing and justifying the procedures used. Distinguish between sketching, constructing, and drawing geometric figures.