

Florida High School Geometry Curriculum Mapping

Geometry	Boardworks High School Geometry presentation
MA.912.G.1.1 Find the lengths and midpoints of line segments in two-dimensional coordinate systems.	The distance between two points The midpoint of a line segment
MA.912.G.1.2 Construct congruent segments and angles, angle bisectors, and parallel and perpendicular lines using a straight edge and compass or a drawing program, explaining and justifying the process used.	Constructing bisecting lines and angles
MA.912.G.1.3 Identify and use the relationships between special pairs of angles formed by parallel lines and transversals.	Angles Lines
MA.912.G.1.4 Use coordinate geometry to find slopes, parallel lines, perpendicular lines, and equations of lines.	Linear graphs Parallel and perpendicular lines The equation of a straight line Slopes and intercepts
MA.912.G.2.1 Identify and describe convex, concave, regular, and irregular polygons.	Polygons
MA.912.G.2.2 Determine the measures of interior and exterior angles of polygons, justifying the method used.	Interior and exterior angles of polygons
MA.912.G.2.3 Use properties of congruent and similar polygons to solve mathematical or real-world problems.	Interior and exterior angles of polygons Using polygons
MA.912.G.2.4 Apply transformations (translations, reflections, rotations, dilations, and scale factors) to polygons to determine congruence, similarity, and symmetry. Know that images formed by translations, reflections, and rotations are congruent to the original shape. Create and verify tessellations of the plane using polygons.	Combining transformations Dilation Reflection symmetry Reflection and rotational symmetry Rotation Rotational symmetry Translation Tessellation
MA.912.G.2.5 Explain the derivation and apply formulas for perimeter and area of polygons (triangles, quadrilaterals, pentagons, etc.).	Area formulas and calculations Quadrilaterals
MA.912.G.2.6 Use coordinate geometry to prove properties of congruent, regular and similar polygons, and to perform transformations in the plane.	Translation Combining transformations Rotational symmetry Reflection symmetry

MA.912.G.2.7 Determine how changes in dimensions affect the perimeter and area of common geometric figures.	Area formulas and calculations
MA.912.G.3.1 Describe, classify, and compare relationships among quadrilaterals including the square, rectangle, rhombus, parallelogram, trapezoid, and kite.	Quadrilaterals
MA.912.G.3.2 Compare and contrast special quadrilaterals on the basis of their properties.	Quadrilaterals
MA.912.G.3.3 Use coordinate geometry to prove properties of congruent, regular, and similar quadrilaterals.	–
MA.912.G.3.4 Prove theorems involving quadrilaterals.	Quadrilaterals
MA.912.G.4.1 Classify, construct, and describe triangles that are right, acute, obtuse, scalene, isosceles, equilateral, and equiangular.	Constructing triangles Triangles
MA.912.G.4.2 Define, identify, and construct altitudes, medians, angle bisectors, perpendicular bisectors, orthocenter, centroid, incenter, and circumcenter.	Constructing bisecting lines and angles Using construction
MA.912.G.4.3 Construct triangles congruent to given triangles.	Congruence and similarity Constructing triangles
MA.912.G.4.4 Use properties of congruent and similar triangles to solve problems involving lengths and areas.	Using congruence and similarity
MA.912.G.4.5 Apply theorems involving segments divided proportionally.	The midpoint of a line segment
MA.912.G.4.6 Prove that triangles are congruent or similar and use the concept of corresponding parts of congruent triangles.	Congruence and similarity Similar right triangles
MA.912.G.4.7 Apply the inequality theorems: triangle inequality, inequality in one triangle, and the Hinge Theorem.	The Triangle Inequality Theorem
MA.912.G.4.8 Use coordinate geometry to prove properties of congruent, regular, and similar triangles.	–
MA.912.G.5.1 Prove and apply the Pythagorean Theorem and its converse.	The Pythagorean Theorem Identifying right triangles Pythagorean triples Calculating sides of a triangle
MA.912.G.5.2 State and apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.	–
MA.912.G.5.3 Use special right triangles ($30^\circ - 60^\circ - 90^\circ$ and $45^\circ - 45^\circ - 90^\circ$) to solve problems.	Special right triangles

	Finding the length of diagonals using the Pythagorean Theorem Finding the height of triangles using the Pythagorean Theorem Using the Pythagorean Theorem to solve problems in context Applying trigonometry
MA.912.G.5.4 Solve real-world problems involving right triangles.	
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.	Using construction
MA.912.G.6.2 Define and identify: circumference, radius, diameter, arc, arc length, chord, secant, tangent and concentric circles.	Parts of a circle The length of an arc Radius and circumference
MA.912.G.6.3 Prove theorems related to circles, including related angles, chords, tangents, and secants.	Parts of circle Angles in a circle
MA.912.G.6.4 Determine and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).	Parts of circle Angles in a circle
MA.912.G.6.5 Solve real-world problems using measures of circumference, arc length, and areas of circles and sectors.	Radius and circumference The length of an arc The area of a circle The area of a sector
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.	The equation of a 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.	The equation of a circle
MA.912.G.7.1 Describe and make regular, non-regular, and oblique polyhedra, and sketch the net for a given polyhedron and vice versa.	Prisms Pyramids
MA.912.G.7.2 Describe the relationships between the faces, edges, and vertices of polyhedra.	Edges of rectangular prisms
MA.912.G.7.3 Identify, sketch, find areas and/or perimeters of cross sections of solid objects.	Using length, area and volume formulas
MA.912.G.7.4 Identify chords, tangents, radii, and great circles of spheres	Cylinders, cones and spheres
MA.912.G.7.5 Explain and use formulas for lateral area, surface area, and volume of solids.	Using length, area and volume formulas
MA.912.G.7.6 Identify and use properties of congruent and similar solids.	–

MA.912.G.7.7 Determine how changes in dimensions affect the surface area and volume of common geometric solids.	Using length, area and volume formulas
MA.912.G.8.1 Analyze the structure of Euclidean geometry as an axiomatic system. Distinguish between undefined terms, definitions, postulates, and theorems.	–
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.8.3 Determine whether a solution is reasonable in the context of the original situation.	–
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.	Constructing triangles Constructing bisecting lines and angles Using construction