Geometry Next Generation Sunshine State Standards
Conceptual Skills-Textbook Correlation

GEOMETRY STANDARD	TEXTBOOK REFERENCES	CHAPTER
MA.912.D.6.2: Find the converse, inverse, and contrapositive of a statement	80, 94, 135, 341	2, 5
MA.912.D.6.3: Determine whether two propositions are logically equivalent.	80, 94, 135, 341	1, 5
MA.912.D.6.4: Use methods of direct and indirect proof and determine whether a short proof is logically valid.	337 - 341, 343, 347	5
MA.912.G.1.1: Find the lengths and midpoints of line segments in two-dimensional coordinate systems.	15 – 22	1
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.	27, 28, 30 - 32, 310 – 316	1, 5
MA.912.G.1.3: Identify and use the relationships between special pairs of angles formed by parallel lines and transversals.	35 – 41, 62, 122 – 131, 137	1, 2
MA.912.G.2.1: Identify and describe convex, concave, regular, and irregular polygons.	42, 513	1, 8
MA.912.G.2.2: Determine the measures of interior and exterior angles of polygons, justifying the method used.	506 – 513, 560 – 561	8
MA.912.G.2.3: Use properties of congruent and similar polygons to solve mathematical or real-world problems.	113	2
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.	590, 598, 608, 626	9
MA.912.G.2.5: Explain the derivation and apply formulas for perimeter and area of polygons (triangles, quadrilaterals, pentagons, etc.).	763, 769	11
MA.912.G.2.7: Determine how changes in dimensions affect the perimeter and area of common geometric figures.	48, 374, 737 – 743, 779, 781	1, 6, 11
MA.912.G.3.1: Describe, classify, and compare relationships among quadrilaterals including the square, rectangle, rhombus, parallelogram, trapezoid, and kite.	552 – 557, 559, 563, 545 – 549, 533 – 540	8
MA.912.G.3.2: Compare and contrast special quadrilaterals on the basis of their properties.	507, 535, 543, 544	8
MA.912.G.3.3: Use coordinate geometry to prove properties of congruent, regular, and similar quadrilaterals.	517, 518, 527	8
MA.912.G.3.4: Prove theorems involving quadrilaterals.	507, 535, 543, 544	8
MA.912.G.4.1: Classify, construct, and describe triangles that are right, acute, obtuse, scalene, isosceles, equilateral, and equiangular.	217, 218, 221, 281	4
MA.912.G.4.2: Define, identify, and construct altitudes, medians, angle bisectors, perpendicular bisectors, orthocenter, centroid, incenter, and circumcenter.	318 – 325, 321, 306, 319, 312	5
MA.912.G.4.3: Construct triangles congruent to given triangles. – NOT ASSESSED	225 – 231, 257, 261, 262	4
MA.912.G.4.4: Use properties of congruent and similar triangles to solve problems involving lengths and areas.	381 – 387, 328, 329, 331 - 334	5,6
MA.912.G.4.5: Apply theorems involving segments divided proportionally.	397, 398	6
MA.912.G.4.6: Prove that triangles are congruent or similar and use the concept of corresponding parts of congruent triangles.	256 – 263, 284 – 285	4
MA.912.G.4.7: Apply the inequality theorems: triangle inequality, inequality in one triangle, and the Hinge Theorem.	328 – 334, 335 – 341	5
MA.912.G.5.1: Prove and apply the Pythagorean Theorem and its converse.	432, 433, 440 – 447	7
MA.912.G.5.2: State and apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.	241, 448 – 456	4, 7
MA.912.G.5.3: Use special right triangles (30° - 60° - 90° and 45° - 45° - 90°) to solve problems.	459 – 464, 493, 496	7
MA.912.G.5.4: Solve real-world problems involving right triangles.	217, 241, 254	4
MA.912.G.6.2: Define and identify: circumference, radius, diameter, arc, arc length, chord, secant, tangent and concentric circles.	49 – 50, 746 – 752, 756 – 761	1, 11

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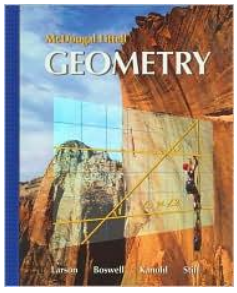
MA.912.G.6.4: Determine and use measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).	651, 671 – 679	10
MA.912.G.6.5: Solve real-world problems using measures of circumference, arc length, and areas of circles and sectors.	49 – 50, 746 – 752, 756 – 761	1, 11
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.	651, 652, 654, 656 – 658, 699 – 705, 711	10
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.	651, 652, 654, 656 – 658, 699 - 705	10
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.	794 – 801, 856, 857	12
MA.912.G.7.2: Describe the relationships between the faces, edges, and vertices of polyhedra.	794 – 801, 856, 857	12
MA.912.G.7.4: Identify chords, tangents, radii, and great circles of spheres	651, 664, 650 – 658, 794, 838	10, 12
MA.912.G.7.5: Explain and use formulas for lateral area, surface area, and volume of solids.	794 – 801, 848, 803 – 812, 848	12
MA.912.G.7.6: Identify and use properties of congruent and similar solids.	113, 846 – 854	2, 12
MA.912.G.7.7: Determine how changes in dimensions affect the surface area and volume of common geometric solids.	802, 803, 843, 845, 851	12
MA.912.G.8.1: Analyze the structure of Euclidean geometry as an axiomatic system. Distinguish between undefined terms, definitions, postulates, and theorems.	2, 9, 113, 198, 753, 754 EMBEDDED THROUGHOUT	1, 2, 11
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.	EMBEDDED THROUGHOUT	
MA.912.G.8.3: Determine whether a solution is reasonable in the context of the original situation.	EMBEDDED THROUGHOUT	
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.	73 – 78	2
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.	256 – 263, 284 – 285, 543, 544, 507, 535	4, 8
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.	NOT ASSESSED	
MA.912.T.2.1: Define and use the trigonometric ratios (sine, cosine, tangent, cotangent, secant, cosecant) in terms of angles of right triangles.	490 – 491, 650 – 658, 708 – 709, 651	7, 10



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