Cord Geometry, Learning in Context, 3rd edition
correlation to Indiana Geometry American Standards

American Standard	Cord Geometry Lesson(s)
Standard 1 Points, Lines, Angles and Planes	
G.1.1 Find the length of line segments in one- or two-dimensional coordinate systems, the slopes of line segments in two-dimensional coordinate systems, and find the point that is a given fractional distance from one end of the segment to another.	1.2, 7.1, 7.3
G.1.2 Construct congruent segments and angles, angle bisectors, perpendicular bisectors, and parallel and perpendicular lines using appropriate geometric construction tools, explaining and justifying the process used.	1.4, Ch. 1 Math Labs
G.1.3 Recognize, use, and justify the relationships between special angles created by parallel lines and transversals.	1.5, 2.8
G.1.4 Identify and apply properties of and theorems about parallel and perpendicular lines, and write equations of parallel and perpendicular lines, and develop simple geometric proofs involving parallel and perpendicular lines.	1.5, 2.8, 7.4, 7.5
G.1.5 Identify, justify and apply properties of planes.	1.1
G.1.6 Represent geometric objects and figures algebraically using coordinates, use algebra to solve geometric problems, and develop simple coordinate proofs involving geometric objects in the coordinate plane.	7.1, 7.2, 7.3, 7.4, 7.5, 7.6
G.1.7 Describe the intersection of two or more geometric figures in the plane.	10.9
Standard 2 Polygons	
G.2.1 Find and use the sum of the measures of interior and exterior angles of convex polygons, justifying the method used.	6.1, 6.2
G.2.2 Identify types of symmetry (line, point, rotational, self-congruences) of polygons.	11.1, 11.3
G.2.3 Solve problems involving congruent and similar polygons.	3.4, 3.5, 3.6, 4.2, 4.3, 4.4
G.2.4 Predict and describe the results of translations, reflections, and rotations on polygons and describe a motion or series of motions that will show that two shapes are congruent.	11.1, 11.2, 11.3, 11.4, 11.5

G.2.5 Deduce formulas relating lengths and sides, perimeters, and areas of regular polygons and understand how limiting cases of such formulas lead to expressions for the circumference and the area of a circle.	8.1, 8.2, 8.3, 8.4, 8.5
G.2.6 Recognize and use coordinate geometry to verify properties of polygons such as regularity, congruence and similarity.	7.5, 7.6
G.2.7 Develop simple geometric proofs involving congruent and similar polygons and provide reasons for each statement.	3.4, 3.5, 3.6, 3.7, 3.8, 4.2, 4.3
Quadrilaterals	
G.2.8 Describe, classify, and recognize relationships among the quadrilaterals such as squares, rectangles, rhombuses, parallelograms, trapezoids and kites.	6.3, 6.4, 6.5, 6.6
G.2.9 Prove and apply theorems about parallelograms and trapezoids (including isosceles trapezoids) involving their angles, sides, and diagonals and prove that given quadrilaterals are parallelograms, rhombuses, rectangles, squares, or trapezoids (as appropriate).	6.3, 6.4, 6.5, 6.6
Triangles	
G.2.10 Define, identify, construct, and solve problems involving perpendicular bisectors, angle bisectors, medians and altitudes in triangles.	3.8
G.2.11 Construct triangles congruent to given triangles, explaining and justifying the process used.	Ch. 1 Math Lab Activity 2
G.2.12 Use theorems to show whether two triangles are congruent (SSS, SAS, ASA) or similar (AA, SAS, SSS).	3.4, 3.5, 3.6, 4.2, 4.3
G.2.13 Apply the triangle inequality theorem.	3.3
G.2.14 Develop simple geometric proofs involving triangles and provide reasons for each statement.	3.4, 3.5, 3.6, 3.7, 3.8, 4.2, 4.3
Isosceles Triangles	
G.2.15 Prove and apply the isosceles triangle theorem and its converse.	3.7
Right Triangles	
G.2.16 Prove the Pythagorean Theorem and its converse and use them to solve problems, including problems involving the length of a segment in the coordinate plane.	5.2, 7.1

G.2.17 Prove and apply the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle.	3.7, 3.8, 4.5
G.2.18 Use special right triangles (30° - 60° and 45° - 45°) to solve problems.	5.3
G.2.19 Define and use the trigonometric functions (sine, cosine, tangent) in terms of angles of right triangles.	5.4, 5.5
G.2.20 Deduce and apply the area formula $A=ab\sin C$, where a and b are the lengths of two sides of a triangle and C is the measure of the included angle formed by the two sides.	5.6
G.2.21 Solve problems that can be modeled using right triangles, including problems that can be modeled using trigonometric functions. Interpret the solutions, and determine whether the solutions are reasonable, using technology as when appropriate.	5.2, 5.3, 5.4, 5.5, Ch. 5 Math Applications
Standard 3 Circles	
G.3.1 Construct the circle that passes through three given points not on a line and construct tangents to circles and circumscribe and inscribe circles, justifying the processes used.	9.2, 9.4
G.3.2 Define, deduce and use formulas for, and prove theorems for radius, diameter, chord, secant, and tangent.	9.1, 9.2, 9.3, 9.4, 9.5
G.3.3 Define, deduce and use formulas for, and prove theorems for measures of arcs and related angles (central, inscribed, and intersections of secants and tangents).	9.2, 9.3, 9.4, 9.5
G.3.4 Define, deduce and use formulas for, and prove theorems for measures of circumference, arc length, and areas of circles and sectors.	8.5, 9.3
G.3.5 Find the equation of a circle in the coordinate plane in terms of its center and radius and determine how the graph of a circle changes if a, b, and r are changed in the equation $(x - a)^2 + (y - b)^2 = r^2$.	9.1
G.3.6 Develop simple geometric proofs involving circles and provide reasons for each statement.	9.2, 9.3, 9.5

Standard 4 Polyhedra and Other Solids	
G.4.1 Identify, justify and apply properties of prisms, regular pyramids, cylinders, right circular cones and spheres.	10.3, 10.4, 10.5, 10.6, 10.7
G.4.2 Solve problems involving congruent and similar solids.	10.8
G.4.3 Find and use measures of sides, volumes, and surface areas of prisms, regular pyramids, cylinders, right circular cones and spheres. Relate these measures to each other using formulas.	10.3, 10.4, 10.5, 10.6, 10.7
G.4.4 Visualize solids and surfaces in three-dimensional space when given two-dimensional representations and create two-dimensional representations for the surfaces of three-dimensional objects.	10.1, 10.2, 10.3
Standard 5 Geometric Reasoning and Proof	
G.5.1 Describe the structure of and relationships within an axiomatic system (undefined terms, definitions, axioms/postulates, methods of reasoning, and theorems).	1.1, 2.1, 2.2, 2.3, 3.4, 2.5, 2.6
G.5.2 Recognize that there are geometries, other than Euclidean geometry, in which the parallel postulate is not true and illustrate its counterparts in other geometries.	Ch 3 Cultural Connection (p. 147)
G.5.3 Understand the difference between supporting evidence, counterexamples, and actual proofs.	2.1, 2.2, 2.3, 2.4, 2.5
G.5.4 Develop simple geometric proofs (direct proofs, indirect proofs, proofs by contradiction and proofs involving coordinate geometry) using two-column, paragraphs, and flow charts formats and providing reasons for each statement in the proofs.	2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, and throughout text