<table>
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<th>Content from Earlier Grades</th>
<th>Algebra I</th>
<th>Geometry</th>
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<tbody>
<tr>
<td>8.6 a) verify/describe relationships among vertical/adjacent/ supplementary/complementary angles;</td>
<td>A.6 graph linear equations/linear inequal (2 vars) - a) determine slope of line given equation of line/graph of line or two points on line - slope as rate of change; b) write equation of line given graph of line/two points on line or slope-point on line</td>
<td>G.1 The student will construct and judge the validity of a logical argument consisting of a set of premises and a conclusion. This will include a) identifying the converse, inverse, and contrapositive of a conditional statement; b) translating a short verbal argument into symbolic form; c) using Venn diagrams to represent set relationships; and d) using deductive reasoning.</td>
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<td>7.8 represent transformations (reflections, dilations, rotations, and translations) of polygons in the coordinate plane by graphing</td>
<td>8.8 a) apply transformations to plane figures; b) ID applications of transformations</td>
<td>G.2 The student will use the relationships between angles formed by two lines cut by a transversal to a) determine whether two lines are parallel; b) verify the parallelism, using algebraic and coordinate methods as well as deductive proofs; and c) solve real-world problems involving angles formed when parallel lines are cut by a transversal.</td>
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<td>6.12 determine congruence of segments/angles/polygons</td>
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<td>G.3 The student will use pictorial representations, including computer software, constructions, and coordinate methods, to solve problems involving symmetry and transformation. This will include a) investigating and using formulas for finding distance, midpoint, and slope; b) applying slope to verify and determine whether lines are parallel or perpendicular; c) investigating symmetry and determining whether a figure is symmetric with respect to a line or a point; and d) determining whether a figure has been translated, reflected, rotated, or dilated, using coordinate methods.</td>
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<td>G.4 The student will construct and justify the constructions of a) a line segment congruent to a given line segment; b) the perpendicular bisector of a line segment; c) a perpendicular to a given line from a point not on the line; d) a perpendicular to a given line at a given point on the line; e) the bisector of a given angle, f) an angle congruent to a given angle; and g) a line parallel to a given line through a point not on the given line.</td>
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| 6.12 determine congruence of segments/angles/polygons | 7.6 determine similarity of plane figures and write proportions to express relationships between similar quads and triangles | G.5 The student, given information concerning the lengths of sides and/or measures of angles in triangles, will  
a) order the sides by length, given the angle measures;  
b) order the angles by degree measure, given the side lengths;  
c) determine whether a triangle exists; and  
d) determine the range in which the length of the third side must lie. These concepts will be considered in the context of real-world situations. |
| 8.10 a) verify the Pythagorean Theorem; b) apply the Pythagorean Theorem | A.3 express sq roots/cube roots of whole numbers/the square root of monomial alg exp (simplest radical form) | G.6 The student, given information in the form of a figure or statement, will prove two triangles are congruent, using algebraic and coordinate methods as well as deductive proofs.  
G.7 The student, given information in the form of a figure or statement, will prove two triangles are similar, using algebraic and coordinate methods as well as deductive proofs. |
| 6.13 ID/describe properties of quadrilaterals | 7.7 compare/contrast quadrilaterals based on properties | G.8 The student will solve real-world problems involving right triangles by using the Pythagorean Theorem and its converse, properties of special right triangles, and right triangle trigonometry.  
G.9 The student will verify characteristics of quadrilaterals and use properties of quadrilaterals to solve real-world problems. |
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<td>6.12 determine congruence of segments/angles/polygons</td>
<td>A.4 solve multistep linear/quad equation (2 vars) - a) solve literal equation; b) justify steps used in simplifying expressions and solving equations; c) solve quad equations (alg/graph); d) solve multistep linear equations (alg/graph)</td>
<td>G.10 The student will solve real-world problems involving angles of polygons.</td>
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<td>6.10 a) define π; b) solve practical problems w/circumference/area of circle; c) solve practical problems involving area and perimeter given radius/diameter; d) describe/determine volume/surface area of rectangular prism</td>
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<td>G.11 The student will use angles, arcs, chords, tangents, and secants to a) investigate, verify, and apply properties of circles; b) solve real-world problems involving properties of circles; and c) find arc lengths and areas of sectors in circles.</td>
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<td>6.10 a) define π; b) solve practical problems w/circumference/area of circle; c) solve practical problems involving area and perimeter given radius/diameter; d) describe/determine volume/surface area of rectangular prism</td>
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<td>G.12 The student, given the coordinates of the center of a circle and a point on the circle, will write the equation of the circle.</td>
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<td>7.5 a) describe volume/surface area of cylinders; b) solve practical problems involving volume/surface area of rect. prisms and cylinders; c) describe how changes in measured attribute affects volume/surface area</td>
<td>8.7 a) investigate/solve practical problems involving volume/surface area of prisms, cylinders, cones, pyramids; b) describe how changes in measured attribute affects volume/surface area</td>
<td>G.13 The student will use formulas for surface area and volume of three-dimensional objects to solve real-world problems.</td>
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<tr>
<td>7.5 a) describe volume/surface area of cylinders; b) solve practical problems involving volume/surface area of rect. prisms and cylinders; c) describe how changes in measured attribute affects volume/surface area</td>
<td>8.9 construct a 3-D model given top or bottom/side/front views</td>
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<td>8.7 a) investigate/solve practical problems involving volume/surface area of prisms, cylinders, cones, pyramids; b) describe how changes in measured attribute affects volume/surface area</td>
<td>G.14 The student will use similar geometric objects in two- or three-dimensions to a) compare ratios between side lengths, perimeters, areas, and volumes; b) determine how changes in one or more dimensions of an object affect area and/or volume of the object; c) determine how changes in area and/or volume of an object affect one or more dimensions of the object; and d) solve real-world problems about similar geometric objects.</td>
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