

**Sheridan County School District #3**  
**Geometry Priority Standards**

**ALL standards below apply to the High School Geometry course. ONLY those standards with a \* beside them apply to the Advanced Mathematical Connections course.**

**Congruence**

<p><b>*G.CO.A</b> Experiment with transformations in the plane.  (WY-TOPP covers G.CO.1-5)</p>	<p><b>G.CO.A.2</b> Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch). <b>G.CO.A.3</b> Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. <b>G.CO.A.4</b> Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. <b>G.CO.A.5</b> Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.</p>
<p><b>G.CO.B</b> Understand congruence in terms of rigid motions. (WY-TOPP covers 6-8)</p>	<p><b>G.CO.B.7</b> Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.</p>
<p><b>G.CO.C</b> Prove geometric theorems.</p>	<p><b>G.CO.C.9</b> Prove theorems about lines and angles. <i>Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.</i> <b>G.CO.C.10</b> Prove theorems about triangles. <i>Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.</i> <b>G.CO.C.11</b> Prove theorems about parallelograms. <i>Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.</i></p>
<p><b>*G.CO.D</b> Make geometric constructions (Wy-Topp covers 12 &amp; 13)</p>	<p><b>G.CO.12</b> Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). <i>Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</i></p>
<b>Similarity, Right Triangles, Trigonometry, and Circles</b>	
<p><b>G.SRT.E</b> Understand similarity in terms of similarity transformations (Wy-Topp covers 1-3)</p>	<p><i>After working with the WyTopp modules for 2 years, it has been decided to eliminate this standard as a priority standard. It is still embedded within instruction, just not assessed 3x as a priority standard.</i></p>
<p><b>*G.SRT.F</b> Prove theorems involving similarity. (Wy-Topp covers 4,5)</p>	<p><b>G.SRT.F.5</b> Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.</p>

<p><b>*G.SRT.G</b></p> <p>Define trigonometric ratios and solve problems involving right triangles. <i>(Wy-Topp covers 6,8)</i></p>	<p><b>G.SRT.G.8</b> Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.*</p>
<p><b>G.C.I</b></p> <p>Understand and apply theorems about circles. <i>(Wy-Topp covers 1,2)</i></p>	<p><b>G.C.2</b> Identify and describe relationships among inscribed angles, radii, and chords. <i>Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.</i></p>
<p><b><i>Expressing Geometric Properties with Equations</i></b></p>	
<p><b>G.GPE.K.</b></p> <p>Translate between the geometric description and the equation for a conic section.</p>	<p><i>After working with the WyTopp modules for 2 years, it has been decided to eliminate this standard as a priority standard. It is still embedded within instruction, just not assessed 3x as a priority standard.</i></p>
<p><b>G.GPE.L</b></p> <p>Use coordinates to prove simple geometric theorems algebraically.</p>	<p><b>G.GPE.L.4</b> Use coordinates to prove simple geometric theorems algebraically.  <b>G.GPE.L.5</b> Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).  <b>G.GPE.L.6</b> Find the point on a directed line segment between two given points that partitions the segment in a given ratio.  <b>G.GPE.L.7</b> Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, (e.g., using the distance formula).*</p>
<p><b><i>Geometric Measurement and Dimension &amp; Modeling</i></b></p>	
<p><b>*G.GMD.M</b></p> <p>Explain volume formulas and use them to solve problems. <i>(Wy-Topp covers 1,3)</i></p>	<p><b>G.GMD.M.3</b> Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.</p>
<p><b>G.GMD.N</b></p> <p>Visualize relationships between 2-D and 3D objects</p>	<p><b>G.GMD.N.4</b> Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.</p>
<p><b>G.MG.O</b></p> <p>Apply geometric concepts in modeling situations. <i>(Wy-Topp covers 1-3)</i></p>	<p><b>G.MG.O.1</b> Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).  <b>G.MG.O.3</b> Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).</p>