

AIM HIGH SCHOOL

Curriculum Map - 2015



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COURSE TITLE:	Geometry	DESCRIPTION OF COURSE: In Geometry, students study points, segments, triangles, polygons, circles, and solid figures. There is a focus on comparisons between these figures concerning surface areas, volumes, congruency, similarity, transformations, and coordinate Geometry. The course emphasizes higher order reasoning, spatial visualization and logical reasoning patterns. Inductive, deductive, and intuitive reasoning skills are improved with Geometry. Paced Geometry is another option for students who may need an additional year to complete the course curriculum.
PREREQUISITES:	Algebra 1	

Every student should understand and use all concepts and skills from the previous grade levels. The standard is designed so that new learning builds on preceding skills.

CONTENT	CORE CONCEPTS	ASSESSMENTS	NATIONAL AND STATE STANDARDS
Unit 1 - Essentials of Geometry	<ul style="list-style-type: none"> ○ Define and Identify Points, Lines, and Planes ○ Measure and classify angles and add angle measures ○ Measure segments and add segment lengths ○ Bisect a segment and find the coordinates of the midpoint of a segment ○ Bisect an angle ○ Find the measures of complementary and supplementary angles ○ Find the measures of angles formed by intersecting lines (vertical angles and linear pairs) 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-C0</p> <p>Common Core HSG.CO.A.1, HSG.CO.D.12</p>
Unit 2 – Angles Created by Lines & Polygons	<ul style="list-style-type: none"> ○ Angle Pairs Parallel Lines & Transversals ○ Parallel Lines & Triangles ○ Sum of all interior angles of any triangle adds to 180 degrees ○ Classify triangles by their sides and by their angles ○ Isosceles Triangle Theorem ○ Inscribed Angles ○ Angles in Parallelograms ○ Sum of Interior Angles of Polygons 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-C0</p> <p>Common Core HSG.CO.A.1, HSG.CO.A.4, HSG.CO.C.9, HSG.CO.C.10, HSG.CO.C.11, HSG.CO.D.12</p>
Unit 3 - Area & Perimeter	<ul style="list-style-type: none"> ○ Rectangles, Squares, & Parallelograms ○ Kites, Rhombuses, Triangles, & Trapezoids ○ Circles ○ Sectors ○ Composite Shapes 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-C0, G-C, G-MG</p> <p>Common Core HSG.CO.A.1, HSG.C.B.5, HSG.GMD.A.1, HSG.MG.A.3</p>

Unit 4 – Proportionality Theorems & Similar Figures	<ul style="list-style-type: none"> ○ Similar Figures (Scale Factors/Perimeter Ratios) ○ Similar Triangle Short Cuts ○ Use ratios and proportions ○ Identify similar polygons ○ Show that two triangles are similar using AA, SSS, and SAS ○ Similar Triangle Proofs (Circles) ○ Side Splitter and Angle Bisector Theorem ○ Altitude in a Right Triangle (Geometric Mean) 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	Michigan State Standards G-SRT Common Core HSG.SRT.A.1 , HSG.SRT.A.2 , HSG.SRT.A.3 , HSG.SRT.B.4 , HSG.SRT.B.5 , HSG.SRT.B.4 , HSG.SRT.B.5 , HSG.C.A.1
Unit 5 - Right Triangles & Trigonometry	<ul style="list-style-type: none"> ○ Pythagorean Theorem ○ Special Right Triangles ○ Trigonometry ○ Area of Polygons ○ Law of Sines & Cosines 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	Michigan State Standards G-GPE, G-SRT, G-GPE, Common Core HSG.SRT.C.6 , HSG.SRT.C.7 , HSG.SRT.C.8 , HSG.SRT.D.9 , HSG.SRT.D.10 , HSG.SRT.D.11 , HSG.SRT.B.4 , HSG.SRT.C.6 , HSG.SRT.C.7 , HSG.SRT.C.8 , HSG.SRT.D.9 , HSG.SRT.D.10 , HSG.SRT.D.11 , HSG.GPE.A.1

Unit 6 – Congruent Figures	<ul style="list-style-type: none"> ○ Identify congruent triangles and corresponding parts ○ Show triangles are congruent using SSS, SAS, ASA, AAS, and HL ○ Triangle Congruence Proofs ○ Show corresponding parts of congruent triangles are congruent ○ Proofs involving Circles & Quadrilaterals 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-C0</p> <p>Common Core HSG.CO.B.8, HSG.SRT.B.5</p>
Unit 7 - Extended Properties of Circles	<ul style="list-style-type: none"> ○ Identify segments and lines related to circles (chord, diameter, radius, secant, and tangent) ○ Use properties of tangents ○ Use properties of arcs of circles ○ Use properties of chords of circles ○ Use properties of inscribed angles ○ Write and graph the equation of a circle 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-C</p> <p>Common Core HSG.C.A.2, HSG.C.A.3, HSG.C.A.4, HSG.GPE.A.1</p>
Unit 8 – Surface Area & Volume	<ul style="list-style-type: none"> ○ Surface Area of Prisms ○ Surface Area of Pyramids ○ Volume of Prisms ○ Volume of Pyramids ○ Volume & Surface Area of Spheres ○ Similarity Ratios of Surface Area & Volume ○ Visualize Cross Sections 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-GMD, G-MG</p> <p>Common Core HSG.GMD.A.1, HSG.GMD.A.2, HSG.GMD.A.3, HSG.GMD.B.4, HSG.MG.A.1, HSG.MG.A.2, HSG.MG.A.3</p>
Unit 9 – Coordinate Geometry	<ul style="list-style-type: none"> ○ Distance Formula & Equation of a Circle ○ Slope of a Line (Relation to Angle Measure) ○ Parallel & Perpendicular Slopes ○ Vectors ○ Midpoint Formula ○ Graph & Write Linear Equations ○ Graph & Write Parallel & Perpendicular Lines ○ Coordinate Proofs 	<ul style="list-style-type: none"> ○ Guided Notes ○ Interactive Practice Problem Sets ○ 3 Act Math Activities ○ Corrective Assignments (If needed) ○ Mastery Checks ○ Unit Test 	<p>Michigan State Standards G-C0, G-GPE</p> <p>Common Core HSG.CO.A.2, HSG.CO.A.3, HSG.CO.A.4, HSG.CO.A.5, HSG.SRT.A.1, HSG.SRT.A.2, HSG.SRT.A.3, HSG.GPE.B.4, HSG.GPE.B.5, HSG.GPE.B.6, HSG.GPE.B.7</p>