Curriculum Map: Honors Geometry
Course: GEOMETRY H Sub-topic: Geometry

Grade(s): 9 to 10

Course Description: This honors level course will provide a faster-paced, deeper study of the same content offered in Geometry including developing and applying the properties of points, lines, and planes and the figures they form. The relationships of triangles, quadrilaterals, and other polygons are extended to applications of area and volume. Inductive and deductive reasoning are stressed throughout the course. This honors level course will also provide more rigorous applications of Geometry to increase thinking skills and problem-solving skills.

Unit: Unit 1: Inductive Reasoning

Topic: Algebra Review and 1.1 Vocab
Minutes for Topic: 86

Topic: 1.2-1.4: Patterns
Minutes for Topic: 86

Topic: 1.5: Figurative Numbers and Applications
Minutes for Topic: 172

Topic: 1.6: Unfactorable Sequences and Applications
Minutes for Topic: 172

Topic: Writing in Geometry
Minutes for Topic: 86

Topic: Unit 1 Review and Test
Minutes for Topic: 172

Unit: Unit 2: Line and Angle Properties
STANDARDS:

STANDARDS

STATE: Pennsylvania State Anchors (2010)

M8.C.1.1.2 (Advanced)	Define, identify and/or use properties of angles formed by intersecting lines (complementary, supplementary, adjacent and/or vertical angles).	
M8.C.1.1.3 (Advanced)	Define, identify and/or use properties of angles formed when two parallel lines are cut by a transversal (alternate interior, alternate exterior, vertical corresponding).	
M8.C.3 (Advanced)	Locate points or describe relationships using the coordinate plane.	
M8.C.3.1 (Advanced)	Plot and/or identify ordered pairs on a coordinate plane.	
M8.C.3.1.1 (Advanced)	Plot, locate or identify ordered pairs on a coordinate plane (the point may be a vertex of a polygon).	
M11.C.1 (Advanced)	Analyze characteristics and properties of two- and three-dimensional geometric shapes and demonstrate understanding of geometric relationships.	
M11.C.1.2.1 (Advanced)	Identify and/or use properties of triangles (e.g., medians, altitudes, angle bisectors, side/angle relationships, Triangle Inequality Theorem).	
M11.C.3 (Advanced)	Locate points or describe relationships using the coordinate plane.	
M11.C.3.1 (Advanced)	Solve problems using analytic geometry.	
M11.C.3.1.1 (Advanced)	Calculate the distance and/or midpoint between 2 points on a number line or on a coordinate plane (formula provided on the reference sheet).	
M11.C.3.1.2 (Advanced)	Relate slope to perpendicularity and/or parallelism (limit to linear algebraic expressions; slope formula provided on the reference sheet).	

Topic: 2.1-2.3: Basics of Geometry
Minutes for Topic: 172

Topic: 4.1 and Types of Lines
Minutes for Topic: 172

Topic: 4.2: Lines Cut by Transversal
Minutes for Topic: 172

Topic: 4.3-4.5: Midpoint/Slope/Equations
Minutes for Topic: 86

Topic: 4.6: Intersections/Altitude/Perp Bis/Median/Euler Line
Minutes for Topic: 258

Topic: Unit 2 Review and Test
Minutes for Topic: 172

Unit: Unit 3: Triangle Properties

Topic: 5.1-5.2: Basics of Triangles
Minutes for Topic: 86

Topic: 5.3: Exterior Angle and Properties of Triangles
Minutes for Topic: 86

Topic: 5.4-5.5: Congruent Triangles
Minutes for Topic: 172

Topic: 5.6: Triangle Proofs
Minutes for Topic: 258

Topic: Unit 3 Review and Test
Minutes for Topic: 172

Unit: Unit 4: Polygon Properties

Topic: 2.5-6.1-6.2: Polygon Vocab and Angle Measures
Minutes for Topic: 172

Topic: 6.3-6.4: Kites/Trapezoids/Midsegments
Minutes for Topic: 258

Topic: 6.5: Parallelograms
Minutes for Topic: 86

Topic: 6.6: Types of Parallelograms
Minutes for Topic: 86

Topic: All Types of Quadrilaterals/Review/Test
Minutes for Topic: 258

Unit: Unit 5: Circles

Topic: 7.1: Circle Vocab
Minutes for Topic: 86

Topic: 7.2-7.3: Chord and Tangent Properties
Minutes for Topic: 172

Topic: 7.4: Secants/Angles of Circles
Minutes for Topic: 172

Topic: Segments of Circles
Minutes for Topic: 172

Topic: 7.5: Circumference
Minutes for Topic: 86

Topic: 7.7: Arc Length
Minutes for Topic: 86

Topic: 7.6: Applications
Minutes for Topic: 86

Topic: Unit 5 Review and Test
Minutes for Topic: 172

Unit: Unit 6: Right Triangles and Applications of Pythagorean Theorem

Topic: Pythagorean Theorem Applications and Distance Formula
Minutes for Topic: 86

Topic: Circle Equation
Minutes for Topic: 86

Topic: Special Right Triangles
Minutes for Topic: 172

Topic: Right Triangle Trigonometry
Minutes for Topic: 172

Topic: Unit 6 Review and Test
Minutes for Topic: 172

Unit: Unit 7: Area and Volume

Topic: Area of Triangles and Quadrilaterals
Minutes for Topic: 86

Topic: Area of Regular Polygons
Minutes for Topic: 86

Topic: Area of Circles and Parts of Circles
Minutes for Topic: 172

Topic: Prisms and Cylinders
Minutes for Topic: 172

Topic: Pyramids and Cones
Minutes for Topic: 172

Topic: Spheres and Hemispheres
Minutes for Topic: 86

Topic: Unit 7 Review and Test
Minutes for Topic: 172

Unit: Unit 8: Similarity

Topic: Similar Polygons
Minutes for Topic: 172

Topic: Triangle Similarity
Minutes for Topic: 86

Topic: Other Similarity Proportions
Minutes for Topic: 86

Topic: Dilations and Applications
Minutes for Topic: 172

Topic: Right Triangle Similarity
Minutes for Topic: 172

Topic: Unit 8 Review and Test
Minutes for Topic: 172

Unit: Unit 9: Final Exam and Review

Topic: Final Review and Test
Minutes for Topic: 258