

Title Honors Geometry

Unit:		Geometric Structures					
Big Ideas:		Basic Geometric Structures: building blocks of Geometry					
Unit Essential Questions:		What are the tools of Geometry? How is the subject of Geometry built off of these basic tools and concepts?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Points, Lines, and Planes 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Geometry, Points, Lines, Planes, Collinear, Coplanar	What are the undefined terms of Geometry? What are some attributes of geometric drawings?	Define and illustrate the basic geometric terms. Identify the terms in various drawings.	Lecture Examples Real-world identification of objects through physical displays Practice problems	Chapter packet Classroom objects	Quiz Test
Linear Measurement and precision 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Segment, Ray, Line segment, Congruent, Segment Addition Postulate, Precision	How is the Segment Addition Postulate used to interpret geometric objects? How can geometric properties be used to describe relations? How is precision calculated?	Use the Segment Addition Postulate to solve for segment lengths. Identify and describe geometric objects and drawing. Calculate precision of a measurement	Lecture Examples Discussion on the use of precision in the fields of science and construction Practice problems	Chapter packet	Quiz Test
Distance and Midpoint 2 days	CC.2.3.HS.A.1 0 CC.2.3.HS.A.1 1	Distance, Midpoint, Segment Bisector	How can geometric properties be used to describe and analyze situations?	Calculate the distance on a number line or between two points. Calculate the midpoint on a number line or between two points. Given the midpoint and endpoint of a segment, find the other midpoint.	Lecture Examples Map plotting activity Practice problems	Chapter packet Chapter 1 Project Packet	Quiz Test
Angle Measure 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3	Angles, Vertex, Sides, Acute, Right, Obtuse, Straight, Opposite Rays, Protractor	How can geometric properties be used to describe and analyze situations?	How are angles named and classified? What are the attributes of various angles?	Lecture Examples Hands on angle measuring worksheet Discussion on the uses of measuring angles correctly Practice problems	Chapter packet Protractors	Quiz Test
1.1 - 1.4 Quiz 1 day	(all above)	(all above)	(all above)	(all above)			

Title Honors Geometry

Angle Relationships 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3	Complementary Angles, Supplementary Angles, Linear Pair, Adjacent Angles, Vertical Angles, Vertical Angle Theorem, Perpendicular Lines	How can geometric properties be used to describe and analyze situations?	What are the relationships of the various types of angle pairs? What defines lines as being perpendicular?	Lecture Examples Practice problems ASN points Angles	Chapter packet Protractors ASN points ... Angles	Test
Polygons 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3	Polygon, Concave, Convex, Equilateral, Equiangular, Regular, Area, Perimeter	How can the application of attributes of geometric shapes support mathematical reasoning?	Identify polygons by name and properties they contain.	Lecture Examples Practice problems	Chapter packet Chapter 1 Project Packet	Test
Three-Dimensional Figures 2 days	CC.2.3.HS.A.1 2 CC.2.3.HS.A.1 3	Polyhedron, Faces, Edges, Vertices, Prism, Pyramid, Cone, Sphere, Cylinder	How can the application of attributes of geometric shapes support mathematical reasoning?	Identify various 3D shapes and their attributes. Apply the appropriate formula to calculate volume and surface area.	Lecture Examples Practice problems	Chapter packet 3D models Chapter 1 Project Packet	Test
Review and Testing 3 days	(all above)	(all above)	(all above)	(all above)			

18 days

Title Honors Geometry

Unit:	Reasoning and Logic						
Big Ideas:	Patterns and geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.						
Unit Essential Questions:	How can recognizing repetition or regularity assist in solving problems? How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?						
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Inductive Reasoning and Conjecture 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Conjecture, Inductive Reasoning, Counterexample	How can patterns be used to describe relationships in mathematical situations?	Make conjectures based on knowledge and/or reasoning. Provide counterexamples to show conjectures are false.	Lecture Logic puzzles Practice problems	Chapter packet puzzles	Quiz Test
Logic 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Statement, Truth value, Negation, Compound statement, Conjunction, Disjunction, Truth table, Venn diagram	How can logic be used to analyze situations?	Complete truth tables. Reason through situations using logical arguments.	Lecture connect arguments to computer science Practice problems	Chapter packet Logic Puzzles Chapter 2 Project Packet	Quiz Test
Conditional Statements 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Conditional statement, If-then statement, Conclusion, Hypothesis, Converse, Inverse, Contrapositive	How can recognizing logical processes assist in mathematical reasoning?	Analyze statements in if-then form. Write the converse, inverse, and contrapositive of if-then statements. Determine the truth of conditional statements	Lecture Reasoning activity (lobster) ASN worksheet Practice problems	Chapter packet Activity handouts	Quiz Test
Deductive Reasoning 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Deductive reasoning, Valid, Law of Detachment, Law of Syllogism	How can recognizing logical processes assist in mathematical reasoning?	How does deductive reasoning differ from inductive reasoning? Use and apply the reasoning laws.	Lecture Reasoning activity (aliens) Practice problems ASN special angle pairs (review)	Chapter packet Activity handout ASN special angle pairs	Quiz Test
2.1 - 2.4 Quiz 1 day	(all above)	(all above)	(all above)	(all above)			

Title Honors Geometry

Postulates and Two-Column Proofs 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Postulate, Proof, Theorem. Paragraph proof	How can the application of geometric attributes support mathematical reasoning?	Identify and use geometric postulates to aid in the writing of proofs. Use key attributes of proofs to write paragraphs and informal proofs.	Lecture Multiple proofs both mathematical and logical Logic puzzles Practice problems	Chapter packet Logic puzzles Chapter 2 Project Packet	Test
Algebraic Proofs 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Algebraic proof, 2-column proof, Formal proof	How can algebraic properties be used to illustrate mathematical reasoning?	Identify the property used to justify each step when solving an equation.	Lecture Formal proof practice (algebraic) Practice problems	Chapter packet	Test
Proving segment relationships 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11		How can geometric properties and relations support mathematical reasoning?	Identify the property used to justify each step when writing a formal proof..	Lecture Formal proof practice (segments) Practice problems	Chapter packet	Test
Proving Angle Relationships 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11		How can geometric properties and relations support mathematical reasoning?	Identify the property used to justify each step when writing a formal proof..	Lecture Formal proof practice (angles) Practice problems	Chapter packet	Test
Review and Testing 3 days	(all above)	(all above)	(all above)	(all above)			

20 days
Cumulative Total: 38 days

Title Honors Geometry

Unit:		Parallel and Perpendicular Lines					
Big Ideas:		Patterns exhibit relationships that can be extended, described and generalized. Geometric relationships can be described, analyzed, and classified based on spatial reasoning or visualization.					
Unit Essential Questions:		How are angles related when lines are cut by transversals? How is algebra applied to verify geometric theorems and properties?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Parallel Lines and Transversals 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3	Parallel lines, Parallel planes, Skew lines, Transversal, Interior angles, Exterior angles, Consecutive angles, Alternate interior/exterior angles, Corresponding angles	How can the application of the attributes of geometric shapes support mathematical reasoning?	Identify angles formed by lines cut by a transversal. Recognize the different types of lines in drawing	Lecture Construct of drawing Transversals activity (extra) Practice problems Doodle notes (if needed)	Chapter packet rulers Paper Activity Doodle notes Chapter 3 Project Packet	Quiz Test
Angles and Parallel Lines 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3		What are the relations between the angles formed by parallel lines cut by a transversal?	Determine when angles are congruent or supplementary. Apply algebra to geometric situations.	Lecture Create own pictures to trade with others to practice Practice problems	Chapter packet rulers paper	Quiz Test
Slopes of Lines 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.11	Slope, Rate of change	How can the application of algebraic methods be applied to geometric situations?	Calculate slope in geometric situations Apply the concept of slope to determine parallel or perpendicular	Lecture Practice problems	Chapter packet Chapter 3 Project Packet	Quiz Test
3.1 - 3.3 Quiz 1 day	(all above)	(all above)	(all above)	(all above)			
Equations of Lines 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.11	Slope-intercept form, Point-slope form	How can the application of algebraic methods be applied to geometric situations?	Write equations for lines in various forms. Identify if lines are parallel or perpendicular	Lecture Practice problems	Chapter Packet	Test
Proving Lines Parallel 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.11		How can the application of the attributes of geometric shapes support	Prove lines are parallel Use formal proofs Apply algebra to show lines are parallel	Lecture Practice problems (proofs) Proofs with lines (if needed)	Chapter packet line proofs Chapter 3 Project Packet	Test

Title _____ **Honors Geometry** _____

			mathematical reasoning?				
Perpendiculars and Distance 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.11	Equidistant	How can the application of algebraic methods be applied to geometric situations?	Calculate perpendicular lines and distances. Determine the distance between parallel lines	Lecture Practice problems	Chapter packet rulers	Test
Review ad Test 3 days	(all above)	(all above)	(all above)	(all above)			

16 days

Cumulative Total: 54 days

Unit:	Congruent Triangles
Big Ideas:	Describe, analyze, and classify triangle relationships based on spatial reasoning and visualization.
Unit Essential Questions:	How are triangles congruent based on the application of the attributes of geometric shapes?

Title Honors Geometry

Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Classifying Triangles 1 day	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Acute triangle, Equilateral triangle, Obtuse triangle, Right triangle, Equiangular triangle, Isosceles triangle, Scalene triangle	How are geometric attributes used to identify triangles?	Identify and describe different triangles.	Lecture Practice problems Triangle sort Triangle Classifying Activity ASN Triangles	Chapter Packet Sort activity Classify activity ASN Triangles	Quiz Test
Angles of Triangles 1 day	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Auxiliary line, Exterior angle, Remote interior angle, Corollary	How can the application of geometric attributes be used to analyze and solve situations?	Apply the Triangle Exterior Angle Theorem	Lecture Practice problems Exterior Angle Inquiry (if needed)	Chapter Packet Exploration material	Quiz Test
Congruent Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Congruent, Congruent polygon, Corresponding parts	How can geometric properties and theorems be used to solve situations?	Show that polygons and triangles are congruent. Know the information needed to prove shapes are congruent	Lecture Practice problems Congruent Triangle activity	Chapter Packet Activity	Quiz Test
4.1 - 4.3 Quiz 1 day	(all above)	(all above)	(all above)	(all above)			
Proving Triangles Congruent SSS SAS 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Included angle	How can geometric properties and theorems be used to solve situations?	Identify when the appropriate information is provided to use SSS and SAS. Write formal proofs showing triangles are congruent.	Lecture Practice problems Congruent Triangle Proofs packet	Chapter packet Triangle packet Chapter 4 Project Packet	Test
Proving Triangles Congruent ASA AAS HL 3 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Included side	How can geometric properties and theorems be used to solve situations?	Identify when the appropriate information is provided to use SSS, SAS, ASA, AAS, and HL. Write formal proofs showing triangles are congruent.	Lecture Practice problems Congruent Triangle Proofs with CPCTC packet	Chapter packet Triangle with CPCTC packet	Test
Isosceles and Equilateral Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4	Legs of isosceles triangle, Vertex angle, Base angle	How can geometric properties and theorems be used to solve situations?	Identify and use the unique properties of isosceles and equilateral triangles.	Lecture Practice problems Congruent Triangle Snowflakes (if time) Angles in Triangles Puzzle	Chapter packet Congruent Triangle Snowflake puzzle	Test
Review and Tests 3 days	(all above)	(all above)	(all above)	(all above)			

15 days

Cumulative Total: 69 days

Unit:		Relationships in Triangles					
Big Ideas:		The geometric relationship of various centers of a triangle can be described, analyzed, and classified based on spatial reasoning and/or visualization.					
Unit Essential Questions:		How can the application of the geometric attributes of geometric shapes support mathematical reasoning and problem solving?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Bisectors of Triangles 3 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6	Perpendicular bisector, Point of concurrency, Circumcenter, Incenter	How are the applications of spatial relationships used to draw, construct, and solve problems?	Identify and use perpendicular bisectors in triangles. Identify and use angle bisectors in triangles.	Lecture Practice problems Constructions	Chapter packet rulers compasses paper	Quiz Test

Title Honors Geometry

Medians and Altitudes of Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6	Median, Centroid, Altitude, Orthocenter	How are the applications of spatial relationships used to draw, construct, and solve problems?	Identify and use medians in triangles. Identify and use altitudes in triangles.	Lecture Practice problems Constructions Triangle Centers Doodle note (if needed)	Chapter packet rulers compasses paper Doodle note	Quiz Test
5.1 - 5.2 Quiz 1 day	(all above)	(all above)	(all above)	(all above)			
Inequalities in One Triangle 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6		How are the applications of spatial relationships used to draw, construct, and solve problems?	Recognize and apply properties of inequalities to the measures of the angles of a triangle. Recognize and apply the properties of inequalities to the relationships between the angles and sides in a triangle.	Lecture Practice problems	Chapter packet	Test
The Triangle Inequality 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6		How are the applications of spatial relationships used to draw, construct, and solve problems?	Use the Triangle Inequality Theorem to identify possible triangles. Prove triangle relationships using the Triangle Inequality Theorem.	Lecture Practice problems	Chapter packet	Test
Inequalities in Two Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6		How are the applications of spatial relationships used to draw, construct, and solve problems?	Apply the Inequalities in Two Triangles Theorem or its converse to make comparisons in two triangles. Prove triangle relationships using the theorem or its converse.	Lecture Practice problems	Chapter packet	Test
Review and Test 3 days	(all above)	(all above)	(all above)	(all above)			

15 days

Cumulative Total: 84 days

Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Midterm Review 5 days	(all above)	(all above)	(all above)	(all above)		Midterm Review Packet Deltamath Review Test	Midterm

Title Honors Geometry

Midterm 1 day	(all above)	(all above)	(all above)	(all above)		Midterm	Midterm
------------------	-------------	-------------	-------------	-------------	--	---------	---------

6 days
Cumulative Total: 90 days

Unit:	Quadrilaterals
Big Ideas:	Geometric relationships of quadrilaterals can be described, analyzed, and classified based on spatial reasoning and/or visualization.

Title Honors Geometry

Unit Essential Questions:		How are spatial relationships including shape, used to draw, construct, model, and represent real situations or solve problems? How can the application of geometric attributes support mathematical reasoning and problem solving?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Angles of Polygons 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14	Diagonal	How can the application of geometric attributes of geometric shapes support mathematical reasoning and problem solving?	Find and use the sum of the measure of interior angles of polygons. Find and use the sum of the measures of the exterior angles of a polygon.	Lecture Practice problems	Chapter packet	Quiz Test
Parallelograms 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14	Parallelogram	How can the application of geometric attributes of geometric shapes support mathematical reasoning and problem solving?	Recognize and apply properties of the sides and angles of a parallelogram. Recognize and apply properties of the diagonals of parallelograms.	Lecture Practice problems Quadrilateral Proofs	Chapter packet Proofs	Quiz Test
Tests for Parallelograms 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14		How can the application of geometric attributes of geometric shapes support mathematical reasoning and problem solving?	Recognize the conditions that ensure a quadrilateral is a parallelogram. Prove that a set of points forms a parallelogram in the coordinate plane.	Lecture Practice problems	Chapter packet	Quiz Test
Rectangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14	Rectangle	How can the application of geometric attributes of geometric shapes support mathematical reasoning and problem solving?	Recognize and apply properties of rectangles. Determine whether parallelograms are rectangles.	Lecture Practice problems Quadrilateral Proofs	Chapter packet Proofs	Test
Rhombi and Squares 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14	Rhombus, Square	How can the application of geometric attributes of geometric shapes support mathematical reasoning and problem solving?	Recognize and apply properties of rhombi and squares. Determine whether quadrilaterals are rectangles, rhombi, or squares.	Lecture Practice problems Quadrilateral Proofs	Chapter packet Proofs	Test

Title _____ **Honors Geometry** _____

Trapezoids and kites 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11 CC.2.3.HS.A.14	Trapezoid, Kite	How can the application of geometric attributes of geometric shapes support mathematical reasoning and problem solving?	Apply properties of trapezoids. Apply properties of kites.	Lecture Practice problems	Chapter packet	Test
Review and Test 3 days	(all above)	(all above)	(all above)	(all above)			

15 days

Unit:	Proportions and Similarity
Big Ideas:	Patterns exhibit relationships that can be extended, described, and generalized. Geometric relationships can be described analyzed, and classified based on spatial reasoning and/or visualization.

Title Honors Geometry

Unit Essential Questions:		How can patterns be used to describe geometric relations? How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Ratios and proportions 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Ratio, Proportion, Cross product	How can the concept of proportions be applied to geometric shapes?	Write ratios. Write and solve proportions.	Lecture Practice Problems	Chapter packet	Quiz Test
Similar Polygons 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Similar polygon, Similar ratio, Scale factor	How can the application of geometric attributes support mathematical reasoning and problem solving?	Use proportions to identify similar polygons. Solve problems using the properties of similar polygons.	Lecture Practice Problems	Chapter packet	Quiz Test
Similar Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11		How can the application of geometric attributes support mathematical reasoning and problem solving?	Identify similar triangles using the AA~ Postulate, and the SSS and SAS ~ Theorems. Use similar triangles to solve problems.	Lecture Practice Problems Similar Triangle Proofs	Chapter packet Similar Triangle Proofs	Quiz Test
Parallel Lines and Proportional Parts 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Midsegment of a triangle	How can recognizing repetition or regularity assist in solving problems more efficiently?	Use proportional parts within triangles. Use proportional parts with parallel lines.	Lecture Practice Problems	Chapter packet	Quiz Test
Parts of Similar Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11		How can patterns be used to describe relationships in mathematical situations?	Recognize and use proportional relationships of corresponding angle bisectors, altitudes, and medians of similar triangles.	Lecture Practice Problems	Chapter packet	Test
Similarity Transformations 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5	Dilation, Similarity transformation, Scale factor of a dilation	How are spatial relationships, including shape and dimension, used to draw, construct,	Identify similarity transformations. Verify similarity after a similarity transformation.	Lecture Practice Problems	Chapter packet	Test

Title **Honors Geometry**

	CC.2.3.HS.A.6 CC.2.3.HS.A.11		model, and represent situations?				
Scale Drawings and Models 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.3.HS.A.6 CC.2.3.HS.A.11	Scale model. Scale drawing, Scale	How can geometric properties be used to analyze situations?	Interpret scale models. Use scale factors to solve problems.	Lecture Practice Problems	Chapter packet	Test
Review and Tests 3 days	(all above)	(all above)	(all above)	(all above)			

17 days

Unit:	Right Triangles and Trigonometry
Big Ideas:	Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.

Title Honors Geometry

Unit Essential Questions:		How can recognizing repetition or regularity assist in solving problems more efficiently? How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Geometric Mean 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.7 CC.2.2.HS.C.9	Geometric mean	How can patterns be used to describe relationships in mathematical situations?	Find the geometric mean between two numbers. Solve problems involving relationships between parts of a right triangle and the altitude to its hypotenuse.	Lecture Practice Problems	Chapter packet	Quiz Test
The Pythagorean Theorem and Its Converse 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.7 CC.2.2.HS.C.9	Pythagorean triple	How can the application of geometric attributes support mathematical reasoning and problem solving?	Use the Pythagorean Theorem. Use the Converse of the Pythagorean Theorem.	Lecture Practice Problems	Chapter packet	Quiz Test
Special Right Triangles 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.7 CC.2.2.HS.C.9		How can the application of geometric attributes support mathematical reasoning and problem solving?	Use the properties of 45-45-90 triangles. Use the properties of 30-60-90 triangles.	Lecture Practice Problems	Chapter packet	Quiz Test
Trigonometry 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.7 CC.2.2.HS.C.9	Trigonometry, Trigonometric ratio, Sine, Cosine, Tangent, Inverse sine, Inverse cosine, Inverse tangent	How can geometric properties and theorems be used to describe, model, and analyze situations?	Find trigonometric ratios using right triangles. Use trigonometric ratios to find the angle measure in right triangles.	Lecture Practice Problems	Chapter packet	Test
Angles of Elevation and Depression 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.7 CC.2.2.HS.C.9	Angle of elevation, Angle of depression	How can the application of geometric attributes support mathematical reasoning and problem solving?	Solve problems involving angles of elevation and depression. Use angles of elevation and depression to find the distance between two objects.	Lecture Practice Problems	Chapter packet	Test
The Law of Sines and Law of Cosines 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.7	Law of Sines, Law of Cosines	How can the application of geometric attributes support mathematical	Use the Law of Sines to solve triangles. Use the Law of Cosines to solve triangles.	Lecture Practice Problems	Chapter packet	Test

Title Honors Geometry

	CC.2.2.HS.C.9		reasoning and problem solving?				
Review and Tests 3 days	(all above)	(all above)	(all above)	(all above)			

15 days

Unit:	Circles
Big Ideas:	Patterns exhibit relationships that can be extended, described, and generalized. Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.

Title Honors Geometry

Unit Essential Questions:		How can recognizing repetition of regularity assist in solving problems more efficiently? How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Circles and Circumference 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9	Center, Circle, Chord, Diameter, Radius, Concentric circles, Circumference, Pi, Inscribed, Circumscribed	How can patterns be used to describe relationships in mathematical situations?	Identify and use parts of circles. Solve problems involving the circumference of a circle.	Lecture Practice Problems	Chapter packet	Quiz Test
Measuring Angles and Arcs 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9	Central angle, Arc, Minor arc, Major arc, Semicircle, Congruent arcs, Adjacent arcs, Arc length	How can patterns be used to describe relationships in mathematical situations?	Identify central angles, major arcs, minor arcs, and semicircles, and find their measures. Find arc lengths.	Lecture Practice Problems	Chapter packet	Quiz Test
Arcs and Chords 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9		How can patterns be used to describe relationships in mathematical situations?	Recognize and use relationships between arcs and chords. Recognize and use relationships between arcs, chords, and diameters.	Lecture Practice Problems	Chapter packet	Quiz Test
Inscribed Angles 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9	Inscribed angle, Intercepted arc	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Find measures of inscribed angles. Find measures of angles of inscribed polygons.	Lecture Practice Problems	Chapter packet	Quiz Test
Tangents 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9	Tangent, Point of tangency, Common tangent	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Use properties of tangents. Solve problems involving circumscribed polygons.	Lecture Practice Problems	Chapter packet	Test

Title Honors Geometry

Secants, Tangents, and Angle Measures 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9	Secant	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Find measures of angles formed by lines intersecting on or inside a circle. Find measures of angles formed by lines intersecting outside the circle.	Lecture Practice Problems	Chapter packet	Test
Special Segments in a Circle 2 days	CC.2.3.HS.A.3 CC.2.3.HS.A.8 CC.2.3.HS.A.9	Chord segment, Secant segment, External secant segment, Tangent segment	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Find measures of segments that intersect in the interior of a circle. Find measures of segments that intersect in the exterior of a circle.	Lecture Practice Problems Circle proofs ASN Circles	Chapter packet Proofs ASN worksheet	Test
Review and Test 3 days	(all above)	(all above)	(all above)	(all above)			

17 days

Unit:	Transformations and Symmetry
--------------	-------------------------------------

Title Honors Geometry

Big Ideas:	Patterns exhibit relationships that can be extended, described, and generalized. Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.						
Unit Essential Questions:	How can patterns be used to describe relationships in mathematical situations? How are spatial relationships including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?						
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Reflections 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.2.HS.C.11	Line of reflection	How are spatial relationships including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?	Dra reflections. Draw reflections in the coordinate plane.	Lecture Practice Problems	Chapter packet	Quiz Test
Translations 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.2.HS.C.11	Translation vector	How are spatial relationships including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?	Draw translations. Draw translations in the coordinate plane.	Lecture Practice Problems	Chapter packet	Quiz Test
Rotations 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.2.HS.C.11	Center of rotation, Angle of rotation	How are spatial relationships including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?	Draw rotations. Draw rotations in the coordinate plane.	Lecture Practice Problems	Chapter packet	Quiz Test
Compositions of Transformations 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.2.HS.C.11	Composition of transformations, Glide reflections	How can patterns be used to describe relationships in mathematical situations?	Draw glide reflections and other compositions of isometries in the coordinate plane. Draw compositions of reflections in parallel and intersecting lines.	Lecture Practice Problems	Chapter packet	Test
Symmetry 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.2.HS.C.11	Symmetry, Line symmetry, Line of symmetry, Rotational symmetry, Center of symmetry,	How are spatial relationships including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?	Identify line and rotational symmetries in two-dimensional figures. Identify plane and axis symmetries in three-dimensional figures.	Lecture Practice Problems	Chapter packet	Test

Title Honors Geometry

		Order of symmetry					
Dilations 2 days	CC.2.3.HS.A.1 CC.2.3.HS.A.2 CC.2.3.HS.A.3 CC.2.3.HS.A.4 CC.2.3.HS.A.5 CC.2.2.HS.C.11		How can patterns be used to describe relationships in mathematical situations?	Draw dilations. Draw dilations in the coordinate plane.	Lecture Practice Problems	Chapter packet	Test
Review and Test 3 days	(all above)	(all above)	(all above)	(all above)			

15 days

Title Honors Geometry

Unit:		Probability and Measurement					
Big Ideas:		Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization					
Unit Essential Questions:		How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?					
Concept & Pacing	Pa Core Standard	Key Vocabulary	Essential Questions	Competencies (skills, knowledge, abilities)	Mini-Lessons/Activities	Instructional Materials	Assessments
Representing Sample Spaces 2 days	CC.2.4.HS.B.1 CC.2.4.HS.B.2	Sample space Tree diagram, Two-stage experiment, Multi-stage experiment, Fundamental Counting Principle	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Use lists, tables, and tree diagrams to represent sample spaces. Use the Fundamental Counting Principle to count outcomes.	Lecture Practice Problems	Chapter packet	Quiz Test
Probability with Permutations and Combinations 2 days	CC.2.4.HS.B.6 CC.2.4.HS.B.7	Permutation, Factorial, Circular permutation, Combination	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Use permutations with probability. Use combinations with probability.	Lecture Practice Problems	Chapter packet	Quiz Test
Geometric Probability 2 days	CC.2.4.HS.B.6 CC.2.4.HS.B.7	Geometric probability	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Find the probabilities by using lengths. Find the probabilities by using area.	Lecture Practice Problems	Chapter packet	Quiz Test
Simulations 2 days	CC.2.4.HS.B.6 CC.2.4.HS.B.7	Probability model, Simulation, Random variable, Expected value, Law of Large Numbers	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Design simulations to estimate probabilities. Summarize data from simulations.	Lecture Practice Problems	Chapter packet	Test
Probability of Independent and Dependent Events	CC.2.4.HS.B.6 CC.2.4.HS.B.7	Compound event, Independent events,	How can the application of the attributes of geometric shapes	Find probabilities of independent and dependent events. Find the probabilities of events given the occurrence of other events.	Lecture Practice Problems	Chapter packet	Test

Title Honors Geometry

2 days		Dependent events, Conditional probability, Probability tree	support mathematical reasoning and problem solving?				
Probabilities of Mutually Exclusive Events 2 days	CC.2.4.HS.B.6 CC.2.4.HS.B.7	Mutually exclusive events, Complement	How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?	Find the probabilities of events that are mutually exclusive and events that are not mutually exclusive. Find probabilities of complements.	Lecture Practice Problems	Chapter packet	Test
Review and Tests 3 days	(all above)	(all above)	(all above)	(all above)			

15 days

Total 175 days