

**Trinity Area School District
Honors Geometry Curriculum**

Course: Geometry Honors Grade: 9	Overview of Course (Briefly describe what students should understand and be able to do as a result of engaging in this course): This course is designed to introduce the basic elements of geometry: points, lines, planes, segments, and angles. Students will develop the basics of logical thinking necessary for the study of proofs. Other topics of study include: angles formed when two lines are cut by a transversal, theorems and postulates related to parallel and perpendicular lines, triangles and their angle measures and side lengths, properties of congruent triangles, angle bisectors and perpendicular bisectors, properties and classifications of different types of polygons such as quadrilaterals, ratios and proportions and their connection with similar polygons, areas and volumes of polygons, simplification of square roots, right triangle trigonometry, properties involving tangents, secants, and chords of a circle, and central angles, inscribed angles, and inscribed polygons.
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Overarching Big Ideas, Enduring Understandings, and Essential Questions
(These “spiral” throughout the entire curriculum.)

Big Idea	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)
Reasoning and Proof	<p>G.1.1.1 Identify and/or use parts of circles and segments associated with circles, spheres, and cylinders.</p> <p>G.1.1.1.1 Identify, determine, and/or use the radius, diameter, segment, and/or tangent of a circle.</p> <p>G.1.1.1.2 Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.</p> <p>G.1.1.1.3 Use chords, tangents, and secants to find missing arc measures or missing segment measures.</p> <p>G.1.2.1.1 Identify and/or use properties of triangles.</p> <p>G.1.2.1.2 Identify and/or use properties of quadrilaterals.</p> <p>G.1.2.1.3 Identify and/or use properties of isosceles and equilateral triangles.</p>	<p>Definitions establish meanings and remove possible misunderstanding. Other truths are more complex and difficult to see. It is often possible to verify complex truths by reasoning from simpler ones by using deductive reasoning.</p>	<p>What are the building blocks of geometry? How can you make a conjecture and prove that it is true? How do you prove that two lines are parallel or perpendicular? How do you show that two triangles are congruent? How can you tell whether a triangle is isosceles or equilateral? How do you write indirect proofs? How can you classify quadrilaterals? How do you show two triangles are similar? How can you prove relationships between angles and arcs in a circle?</p>

	<p>G.1.3.2 Write formal proofs and/or use logic statements to construct or validate arguments.</p> <p>G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.</p> <p>G.1.3.1.2 Identify and/or use proportional relationships in similar figures.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).</p> <p>G.2.1.1 Solve problems involving right triangles.</p> <p>G.2.1.1.1 Use the Pythagorean theorem to write and/or solve problems involving right triangles.</p> <p>G.2.1.1.2 Use trigonometric ratios to write and/or solve problems involving right triangles.</p> <p>G.2.1.2.3 Use slope, distance, and/or midpoint between two points on a coordinate plane to establish properties of a 2-dimensional shape.</p> <p>G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles.</p> <p>G.2.2.1.2 Use properties of angles formed when two parallel lines are cut by a transversal to find the measures of missing angles.</p>		
Measurement	<p>G.1.1.1.1 Identify, determine, and/or use the radius, diameter, segment, and/or tangent of a circle.</p> <p>G.1.1.1.2 Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.</p> <p>G.1.1.1.3 Use chords, tangents, and secants to find missing arc measures or missing segment measures.</p> <p>G.1.2.1.1 Identify and/or use properties of triangles.</p>	Some attributes of geometric figures, such as length, area, volume, and angle measure, are measurable. Units are used to describe these attributes.	<p>How can you describe the attributes of a segment or angle?</p> <p>What is the sum of the measures of the angles of a triangle?</p> <p>How do you solve problems that involve measurements of triangles?</p> <p>How can you find the sum of the measures of polygon angles?</p> <p>How do you find a side length or angle measure in a right triangle?</p>

	<p>G.1.2.1.2 Identify and/or use properties of quadrilaterals.</p> <p>G.1.2.1.4 Identify and/or use properties of regular polygons.</p> <p>G.2.1.1 Solve problems involving right triangles.</p> <p>G.2.1.1.1 Use the Pythagorean theorem to write and/or solve problems involving right triangles.</p> <p>G.2.1.1.2 Use trigonometric ratios to write and/or solve problems involving right triangles.</p> <p>G.2.1.2.1 Calculate the distance and/or midpoint between two points on a number line or on a coordinate plane.</p> <p>G.2.1.2.3 Use slope, distance, and/or midpoint between two points on a coordinate plane to establish properties of a 2-dimensional shape.</p> <p>G.2.2.2 Use and/or develop procedures to determine or describe measures of perimeter, circumference, and/or area. (May require conversions within the same system.)</p> <p>G.2.2.2.1 Estimate area, perimeter, or circumference of an irregular figure.</p> <p>G.2.2.2.2 Find the measurement of a missing length, given the perimeter, circumference, or area.</p> <p>G.2.2.2.5 Find the area of a sector of a circle.</p> <p>G.2.3.1.1 Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p> <p>G.2.3.1.2 Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p>		<p>How do you find the area of a polygon or find the circumference and area of a circle?</p> <p>How do you find the surface area and volume of a solid?</p> <p>When lines intersect a circle or within a circle, how do you find the measures of resulting angles, arcs, and segments?</p>
Coordinate Geometry	<p>G.1.1.1 Identify and/or use parts of circles and segments associated with circles, spheres, and cylinders.</p>	<p>A coordinate system on a line is a number line on which points are labeled, corresponding to the real numbers. A coordinate system in a plane is formed by two perpendicular number</p>	<p>How do you write an equation of a line in the coordinate plane?</p> <p>How do you coordinate geometry to find relationships within triangles?</p>

	<p>G.1.2.1.1 Identify and/or use properties of triangles.</p> <p>G.2.1.2.2 Relate slope to perpendicularity and/or parallelism (limit to linear algebraic equations).</p> <p>G.2.1.2.3 Use slope, distance, and/or midpoint between two points on a coordinate plane to establish properties of a 2-dimensional shape.</p> <p>G.2.1.3.1 Apply the concept of the slope of a line to solve problems.</p>	<p>lines, called the x- and y-axes, and the quadrants they form. The coordinate plane can be used to graph many functions. It is possible to verify some complex truths using deductive reasoning in combination with Distance, Midpoint, and Slope formulas.</p>	<p>How can you use coordinate geometry to prove general relationships?</p> <p>How do you find the equation of a circle in the coordinate plane?</p>
Visualization	<p>G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.</p> <p>G.1.3.1.2 Identify and/or use proportional relationships in similar figures.</p> <p>G.2.2.4.1 Use area models to find probabilities.</p> <p>G.2.3.1.1 Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p> <p>G.2.3.1.2 Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p> <p>G.2.3.2.1 Describe how a change in the linear dimension of a figure affects its surface area or volume (e.g., How does changing the length of the edge of a cube affect the volume of the cube?).</p>	<p>Visualization can help you connect properties of real objects with two-dimensional drawings of these objects.</p>	<p>How do you identify corresponding parts of congruent triangles?</p> <p>How do you identify corresponding parts of similar triangles?</p> <p>How can you determine the intersection of a solid and a plane?</p>
Proportionality	<p>G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.</p> <p>G.1.3.1.2 Identify and/or use proportional relationships in similar figures.</p> <p>G.2.3.2.1 Describe how a change in the linear dimension of a figure affects its surface area or volume (e.g., How does changing the length of the edge of a cube affect the volume of the cube?).</p>	<p>Two geometric figures are similar when corresponding lengths are proportional and corresponding angles are congruent.</p>	<p>How do you use proportions to find side lengths in similar polygons?</p> <p>How do trigonometric ratios relate to similar right triangles?</p> <p>How do perimeters and areas of similar polygons compare?</p> <p>How do the surface areas and volumes of similar solids compare?</p>

Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study
 (These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

Month of Instruction	Title of Unit	Big Idea(s)	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)	Common Assessment(s)*	Common Resource(s)* Used
August, September,	Tools of Geometry	Reasoning and Proof Measurement	<p>G.1.3.2 Write formal proofs and/or use logic statements to construct or validate arguments.</p> <p>G.2.1.2.1 Calculate the distance and/or midpoint between two points on a number line or on a coordinate plane.</p> <p>G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles.</p> <p>G.2.2.2.1 Estimate area, perimeter, or circumference of an irregular figure.</p>	<p>You can observe patterns in some number sequences and some sequences of geometric figures to discover relationships.</p> <p>Geometry is a mathematical system built on accepted facts, basic terms, and definitions.</p> <p>Segments and rays are parts of lines. Lines can be parallel, skew, or intersecting.</p> <p>You can use number operations to find and compare the lengths of segments.</p> <p>You can use number operations to find and compare the measures</p>	<p>What are the building blocks of geometry?</p> <p>How can you describe the attributes of a segment or angle?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II writings</p> <p>Collins Type III – perimeter</p> <p>Project – Vocabulary Poster</p> <p>Google Classroom Assessments</p> <p>Chapter Test</p> <p>VOCABULARY: Acute angle Adjacent angles Angle Angle bisector Axiom</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Points, Lines, Planes Patty Paper Activity</p> <p>Midpoint Patty Paper Activity</p> <p>Congruent Angles & Segments Patty Paper Activity</p> <p>Stations Activity</p> <p>Speed-Dating Problems</p> <p>Kahoot</p>

				<p>of angles. Special angle pairs can help you identify geometric relationships. You can use these angle pairs to find angle measures.</p> <p>You can draw a perpendicular bisector to a segment, and you can bisect an angle.</p>		<p>Collinear points Compass Complementary Angles Congruent Segments Conjecture Construction Coordinate Coplanar Counterexample Foundation drawing Inductive reasoning Isometric drawing Line midpoint Net Obtuse angle Opposite rays Orthographic drawing Parallel lines Perpendicular lines Plane Point Postulate Ray Right angle Segment Skew lines Space Straight angle Straight edge Supplementary angles Vertical angles</p>	
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September, October	Reasoning and Proof	Reasoning and Proof	<p>G.1.3.2 Write formal proofs and/or use logic statements to construct or validate arguments.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).</p> <p>G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles.</p>	<p>You can describe some mathematical relationships using a variety of <i>if-then</i> statements.</p> <p>A definition is good if it can be written as a biconditional.</p> <p>Given true statements, you can use deductive reasoning to make a valid or true conclusion. Algebraic properties of equality are used in geometry. They will help you solve problems and justify each step you take.</p> <p>You can use given information, definitions, properties, postulates, and previously proven theorems as reasons in a proof.</p>	How can you make a conjecture and prove that it is true?	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Paragraph Proof</p> <p>Google Assessment</p> <p>Chapter Test</p> <p>Project – Children’s Book</p> <p>1st Quarter Test</p> <p>VOCABULARY: Biconditional Conclusion Conditional Converse Deductive reasoning Hypothesis Law of Detachment Law of Syllogism Theorem Truth value</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Jeopardy Game</p> <p>Board Proofs</p> <p>Proofs Packet</p> <p>Kahoot</p> <p>Performance Task</p>

October November	Parallel and Perpendicular Lines	Reasoning and Proof Measurement Coordinate Geometry	<p>G.1.2.1.4 Identify and/or use properties of regular polygons.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).</p> <p>G.2.1.2.2 Relate slope to perpendicularity and/or parallelism (limit to linear algebraic equations).</p> <p>G.2.1.3.1 Apply the concept of the slope of a line to solve problems.</p> <p>G.2.2.1.2 Use properties of angles formed when two parallel lines are cut by a transversal to find the measures of missing angles.</p>	<p>The special angle pairs formed by parallel lines and a transversal are congruent, supplementary, or both.</p> <p>You can use certain angle pairs to decide whether two lines are parallel.</p> <p>You can use the relationships of two lines to a third line to decide whether the two lines are parallel or perpendicular to each other.</p> <p>The sum of the angle measures of a triangle is always the same.</p> <p>The sum of the interior angle measures of a polygon depends on the number of sides the polygon has.</p> <p>You can graph a line and write its equation when you know certain facts about the line, such as its slope and a point on the line.</p>	<p>How do you prove that two lines are parallel or perpendicular?</p> <p>What is the sum of the measures of the angles of a triangle?</p> <p>How do you write an equation of a line in the coordinate plane?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Google Assessments</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Airport</p> <p>Chapter Test</p> <p>Performance Task</p> <p>VOCABULARY: Acute Triangle Alternate Exterior Angles Alternate Interior Angles Concave Polygon Convex Polygon Corresponding Angles Equiangular Triangle Equiangular Polygon Equilateral Triangle Equilateral Polygon Exterior Angle of a Polygon Flow Proof Isosceles Triangle Obtuse Triangle</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Parallel & Perpendicular Patty Paper Activities</p> <p>Transversal & Special Angles Patty Paper Activity</p> <p>Geometry Battleship Activity</p> <p>Kahoot</p>
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				You can determine whether two lines are parallel or perpendicular by comparing their slopes.		Point-Slope Form Polygon Regular Polygon Remote Interior Angles Right Triangle Same-Side Exterior Angles Same-Side Interior Angles Scalene Triangle Slope-Intercept Form Standard Form of a Linear Equation Two-Column Proof	
November December January	Congruent Triangles	Visualization Reasoning and Proof	<p>G.1.2.1.3 Identify and/or use properties of isosceles and equilateral triangles.</p> <p>G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).</p>	<p>You can determine whether two figures are congruent by comparing their corresponding parts.</p> <p>You can prove that two triangles are congruent without having to show that <i>all</i> corresponding parts are congruent. In this lesson, you will prove triangles congruent by using (1) three pairs of corresponding sides and (2) two pairs of corresponding sides and one pair of corresponding angles.</p>	<p>How do you identify corresponding parts of congruent triangles?</p> <p>How do you show that two triangles are congruent?</p> <p>How can you tell whether a triangle is isosceles or equilateral?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Google Assessments</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Using CPCTC</p> <p>Chapter Test</p> <p>Performance Task – Congruent Triangles</p> <p>Quarter 2 Assessment (Midterm Exam)</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Jeopardy Game</p> <p>Speed-Dating Congruent Triangles</p> <p>Drawing Congruent Triangles</p> <p>Kahoot</p> <p>Circuit</p>

			<p>You can prove that two triangles are congruent without having to show that <i>all</i> corresponding parts are congruent. In this lesson, you will prove triangles congruent by using one pair of corresponding sides and two pairs of corresponding angles.</p> <p>If you know two triangles are congruent, then you know that every pair of their corresponding parts is also congruent.</p> <p>The angles and sides of isosceles and equilateral triangles have special relationships.</p> <p>You can prove that two triangles are congruent without having to show that <i>all</i> corresponding parts are congruent. In this lesson, you will prove right triangles congruent by using one pair of right angles, a pair of hypotenuses, and a pair of legs.</p>		<p>VOCABULARY: Base angle of an isosceles triangle Congruent Polygons Corollary CPCTC (Corresponding Parts of Congruent Triangles are Congruent) Hypotenuse Legs of a right triangle Legs of an isosceles triangle Vertex angle of an isosceles triangle.</p>	
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				You can sometimes use the congruent corresponding parts of one pair of congruent triangles to prove another pair of triangles congruent. This often involves overlapping triangles.			
January	Relationships within Triangles	Coordinate Geometry Measurement Reasoning and Proof	<p>G.1.2.1.1 Identify and/or use properties of triangles.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).</p>	<p>There are two special relationships between a midsegment of a triangle and the third side of the triangle.</p> <p>There is a special relationship between the points on the perpendicular bisector of a segment and the endpoints of the segment.</p> <p>A triangle's three medians are always concurrent.</p> <p>A conditional and its contrapositive are logically equivalent. A converse and inverse are logically equivalent. You can use indirect reasoning as another method of proof.</p>	<p>How do you coordinate geometry to find relationships within triangles?</p> <p>How do you solve problems that involve measurements of triangles?</p> <p>How do you write indirect proofs?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Google Assessments</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Triangle Inequalities</p> <p>Chapter Test</p> <p>Performance Task</p> <p>VOCABULARY: Altitude of a Triangle Centroid Circumcenter of a Triangle Circumscribed About Concurrent Contrapositive Coordinate Proof</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Incenter, Orthocenter, Circumcenter Patty Paper Activities</p> <p>Jeopardy Game</p> <p>Kahoot</p> <p>Speed Dating Triangles Questions</p> <p>Circuit</p>

				The angles and sides of a triangle have special relationships that involve inequalities.		Distance from a Point to a line Equivalent Statements Incenter of a Triangle Indirect Proof Indirect Reasoning Inscribed in Inverse Median of a Triangle Midsegment Negation Orthocenter of a Triangle Point of Concurrency	
February	Quadrilaterals	Measurement Reasoning and Proof Coordinate Geometry	<p>G.1.2.1.2 Identify and/or use properties of quadrilaterals.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).</p> <p>G.2.1.2.3 Use slope, distance, and/or midpoint between two points on a coordinate plane to establish properties of a 2-dimensional shape.</p>	<p>Quadrilaterals can be classified into special types.</p> <p>Parallelograms have special properties regarding their sides, angles, and diagonals.</p> <p>You can decide whether a quadrilateral is a parallelogram if its sides, angles, and diagonals have certain properties.</p> <p>The special parallelograms, rhombus, rectangle, and square, have basic properties about their sides, angles, and</p>	<p>How can you find the sum of the measures of polygon angles? How can you classify quadrilaterals?</p> <p>How can you use coordinate geometry to prove general relationships?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Coordinate Geometry</p> <p>Google Assessments</p> <p>Chapter Test</p> <p>Project</p> <p>VOCABULARY: Base of a trapezoid Consecutive angles Isosceles trapezoid</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Kahoot</p> <p>Speed Dating Parallelograms</p> <p>Which quadrilateral am I activity</p>

				<p>diagonals that help identify them. You can determine whether a parallelogram is a rhombus or a rectangle based on the properties of its diagonals.</p> <p>The angles, sides, and diagonals of a trapezoid have certain properties. You can use variables to name the coordinates of a figure. This allows you to show that relationships are true for a general case.</p> <p>You can prove geometric relationships using variable coordinates for figures in the coordinate plane.</p>		<p>Midsegment of a trapezoid Parallelogram Rectangle Rhombus Square trapezoid</p>	
March	Similarity	Proportionality Reasoning and Proof Visualization	<p>G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids.</p> <p>G.1.3.1.2 Identify and/or use proportional relationships in similar figures.</p> <p>G.1.3.2.1 Write, analyze, complete, or identify formal proofs</p>	<p>You can write a ratio to compare two quantities. You can use ratios and proportions to decide whether two polygons are similar and to find unknown side lengths of similar figures.</p> <p>You can show that two triangles are similar when you know the relationships between</p>	<p>How do you use proportions to find side lengths in similar polygons?</p> <p>How do you show two triangles are similar?</p> <p>How do you identify corresponding parts of similar triangles?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II writings</p> <p>Collins Type III - Similarity</p> <p>Google Assessments</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Ratio Activity</p> <p>Kahoot</p> <p>Speed Dating Similarity</p> <p>Circuit</p>

			(e.g., direct and/or indirect proofs/proofs by contradiction).	<p>only two or three pairs of corresponding parts.</p> <p>When you draw the altitude to the hypotenuse of a right triangle, you form three pairs of similar right triangles.</p> <p>When two or more parallel lines intersect other lines, proportional segments are formed.</p>		<p>Chapter Test</p> <p>Performance Task -- Similarity</p> <p>Quarter III Assessment</p> <p>VOCABULARY: Cross-Product Property Extended Proportion Geometric Mean Golden Ratio Golden Rectangle Indirect Measurement Proportion Ratio Scale Scale Drawing Similar Similarity Ratio</p>	
April	Right Triangles	Measurement Proportionality	<p>G.2.1.1 Solve problems involving right triangles.</p> <p>G.2.1.1.1 Use the Pythagorean theorem to write and/or solve problems involving right triangles.</p> <p>G.2.1.1.2 Use trigonometric ratios to write and/or solve</p>	<p>If you know the lengths of any two sides of a right triangle, you can find the length of the third side by using the Pythagorean Theorem.</p> <p>Certain right triangles have properties that allow you to use shortcuts to determine side lengths without</p>	<p>How do you find a side length or angle measure in a right triangle?</p> <p>How do trigonometric ratios relate to similar right triangles?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Special Right Triangles</p>	<p>Geometry (Prentice Hall) 2009</p> <p>SOHCAHTOA Bingo</p> <p>Jeopardy Game</p> <p>Kahoot</p> <p>Circuit</p>

			<p>problems involving right triangles.</p>	<p>using the Pythagorean Theorem.</p> <p>If you know certain combinations of side lengths and angle measures of a right triangle, you can use ratios to find other side lengths and angle measures.</p> <p>If you know certain combinations of side lengths and angle measures of a right triangle, you can use ratios to find other side lengths and angle measures.</p> <p>You can use the angles of elevation and depression as the acute angles of right triangles formed by a horizontal distance and a vertical height.</p>		<p>Google Assessments</p> <p>Performance Task – Ski Mountain</p> <p>Chapter Test</p> <p>VOCABULARY: Angle of Depression Angle of Elevation Cosine Identity Initial point Magnitude Pythagorean theorem Resultant Sine Tangent Terminal point Vector</p>	
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If time permits	Area	Measurement Proportionality	<p>G.1.1.1.2 Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.</p> <p>G.1.1.1.3 Use chords, tangents, and secants to find missing arc measures or missing segment measures.</p> <p>G.1.2.1.4 Identify and/or use properties of regular polygons.</p> <p>G.1.3.1.2 Identify and/or use proportional relationships in similar figures.</p> <p>G.2.2.2 Use and/or develop procedures to determine or describe measures of perimeter, circumference, and/or area. (May require conversions within the same system.)</p> <p>G.2.2.2.2 Find the measurement of a missing length, given the perimeter, circumference, or area.</p> <p>G.2.2.2.5 Find the area of a sector of a circle.</p> <p>G.2.2.4.1 Use area models to find probabilities.</p>	<p>You can find the area of a parallelogram or a triangle when you know the length of its base and its height.</p> <p>You can find the area of a trapezoid when you know its height and the lengths of its bases.</p> <p>The area of a regular polygon is related to the distance from the center to a side.</p> <p>You can use ratios to compare the perimeters and areas of similar figures.</p> <p>You can use trigonometry to find the area of a regular polygon when you know the length of a side, radius, or apothem.</p> <p>You can find the length of part of a circle's circumference by relating it to an angle in the circle.</p> <p>You can find the area of a circle when you know</p>	<p>How do you find the area of a polygon or find the circumference and area of a circle?</p> <p>How do perimeters and areas of similar polygons compare?</p> <p>How is Law of Sines and Law of Cosines used to find unknown sides and angles for triangles?</p> <p>How is Herron's law used to find area of triangle?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II writings</p> <p>Collins Type III – Area</p> <p>Project – area poster</p> <p>Chapter Test</p> <p>VOCABULARY: Adjacent Arcs Altitude of a Parallelogram Apothem Arc Length Base of a Parallelogram Base of a Triangle Center of a Circle Central Angle Circle Circumference Concentric Circles Congruent Arcs Congruent Circles Diameter Geometric Probability Height of a Parallelogram</p>	<p>Geometry (Prentice Hall) 2009</p> <p>Kahoot</p> <p>Speed Dating Area Problems</p> <p>Circuit</p>
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				<p>its radius. You can use the area of a circle to find the area of part of a circle formed by two radii and the arc the radii form when they intersect with the circle.</p> <p>You can use geometric models to solve certain types of probability problems.</p>		<p>Height of a Polygon Major Arc Minor Arc Pi Radius Radius of a regular Polygon Sector of a Circle Segment of a Circle Semicircle</p>	
May	Surface Area & Volume	Visualization Measurement Proportionality	<p>G.2.2.4.1 Use area models to find probabilities.</p> <p>G.2.3.1.1 Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p> <p>G.2.3.1.2 Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet.</p> <p>G.2.3.2.1 Describe how a change in the linear dimension of a figure affects its surface area or volume (e.g., How does changing the length of the edge of a</p>	<p>You can analyze a three-dimensional figure by using the relationships among its vertices, edges, and faces.</p> <p>To find the surface area of a three-dimensional figure, find the sum of the areas of all the surfaces of the figure.</p> <p>To find the surface area of a three-dimensional figure, find the sum of the areas of all the surfaces of the figure.</p> <p>You can find the volume of a prism or a cylinder when you know its height and the area of its base.</p>	<p>How can you determine the intersection of a solid and a plane?</p> <p>How do you find the surface area and volume of a solid?</p> <p>How do the surface areas and volumes of similar solids compare?</p>	<p>Quizzes</p> <p>Homework</p> <p>Minute Madness</p> <p>Collins Type I, II, writings</p> <p>Collins Type III – Tepee</p> <p>Chapter Test</p> <p>Net, Surface Area, and Volume Poster</p> <p>VOCABULARY: Center of a Sphere Composite Space Figure Cone Cross Section Cylinder</p>	<p>Geometry (Prentice Hall) 2009 Graphing Calculator Activity</p> <p>Drawing Nets Activity</p> <p>Kahoot</p> <p>Circuit</p>

			<p>cube affect the volume of the cube?).</p>	<p>The volume of a pyramid is related to the volume of a prism with the same base and height.</p> <p>You can find the surface area and the volume of a sphere when you know its radius.</p> <p>You can use ratios to compare the areas and volumes of similar solids.</p>		<p>Diameter of a Sphere Edge Face Great Circle Height Hemisphere Lateral Area Lateral Faces Oblique Prism Polyhedron Prism Pyramid Radius of a Sphere Regular Pyramid Right Cone Right Cylinder Right Prism Similar Solids Similarity Ratio Slant Height Sphere Vertex Volume</p>	
<p>May June</p>	<p>Circles</p>	<p>Reasoning and Proof Measurement Coordinate Geometry</p>	<p>G.1.1.1 Identify and/or use parts of circles and segments associated with circles, spheres, and cylinders. G.1.1.1.1 Identify, determine, and/or use the radius, diameter, segment, and/or tangent of a circle.</p>	<p>A radius of a circle and the tangent that intersects the endpoint of the radius on the circle have a special relationship.</p> <p>You can use information about congruent parts of a circle (or congruent circles) to find</p>	<p>How can you prove relationships between angles and arcs in a circle?</p> <p>When lines intersect a circle or within a circle, how do you find the measures of resulting angles, arcs, and segments?</p>	<p>Quizzes Homework Minute Madness Collins Type I, II, writings Collins Type III – Inscribed Angles</p>	<p>Geometry (Prentice Hall) 2009 Jeopardy Game Circle Task Kahoot Circuit</p>

			<p>G.1.1.1.2 Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle.</p> <p>G.1.1.1.3 Use chords, tangents, and secants to find missing arc measures or missing segment measures.</p>	<p>information about other parts of the circle (or circles).</p> <p>Angles formed by intersecting lines have a special relationship to the arcs the intersecting lines intercept.</p> <p>Angles formed by intersecting lines have a special relationship to the related arcs formed when the lines intersect a circle.</p> <p>The information in the equation of a circle allows you to graph the circle. Also, you can write the equation of a circle if you know its center and radius.</p>	<p>How do you find the equation of a circle in the coordinate plane?</p>	<p>Chapter Test</p> <p>Performance Task</p> <p>Quarter 4 Assessment (Final)</p> <p>VOCABULARY: Chord Inscribed Angle Intercepted Arc Locus Point of Tangency Secant Standard form of Equation Circle Tangent to a Circle</p>	
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* Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and “Common Resources Used” columns. However, you may use them if you wish.