

**COURSE: 15-1 Geometry**  
**GRADE LEVEL: 11**

MAIN/GENERAL TOPIC:	SUB-TOPIC:	ESSENTIAL QUESTIONS:	WHAT THE STUDENTS WILL KNOW OR BE ABLE TO DO:	SKILLS:	WHEN STUDENT DOES IT:	ASSESSMENTS:
GEOMETRY (GG #1-9)	<ul style="list-style-type: none"> <li>Geometry vocabulary</li> </ul>	<ul style="list-style-type: none"> <li>What are the basic terms of geometry and how are they used to describe figures?</li> </ul>	<ul style="list-style-type: none"> <li>State definitions of and correctly draw diagram of a given geometric term</li> </ul>	<ul style="list-style-type: none"> <li>Recognize basic geometric terminology</li> </ul>	Sept.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Points, Lines and Planes</li> </ul>	<ul style="list-style-type: none"> <li>What are the characteristics of points, lines, planes, segments and rays?</li> </ul>	<ul style="list-style-type: none"> <li>Use proper symbolic notation</li> </ul>	<ul style="list-style-type: none"> <li>Identify and draw basic geometric shapes</li> </ul>	Sept.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
COORDINATE GEOMETRY (GG #62-74) (GG #17-23)	<ul style="list-style-type: none"> <li>Review Basic Coordinate Geometry</li> </ul>	<ul style="list-style-type: none"> <li>How do we find the slope, equation and graph of a line?</li> <li>How do we calculate midpoint and distance?</li> </ul>	<ul style="list-style-type: none"> <li>Calculate equation of a line given 2 points or given 1 point and the slope</li> <li>Use formulas to find slope, midpoint and distance</li> </ul>	<ul style="list-style-type: none"> <li>Identify formulas and use correctly</li> </ul>	Sept.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>How do we prove that the midpoint of a line is actually the midpoint?</li> </ul>	<ul style="list-style-type: none"> <li>Use formulas and write appropriate conclusions for coordinate geometry proofs</li> </ul>	<ul style="list-style-type: none"> <li>Draw appropriate conclusions</li> </ul>	Oct.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>How do you find the equation of a line parallel or perpendicular to a given line?</li> </ul>	<ul style="list-style-type: none"> <li>Use point-slope or slope intercept formulas to find equations of lines</li> </ul>	<ul style="list-style-type: none"> <li>Identify the different slopes of parallel and perpendicular lines</li> </ul>	Oct.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>How can we prove that two lines are either parallel or perpendicular?</li> </ul>	<ul style="list-style-type: none"> <li>Calculate slopes of two given lines and determine whether they are the same or are negative reciprocals</li> </ul>	<ul style="list-style-type: none"> <li>Draw appropriate conclusions</li> </ul>	Oct.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>

	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Why do we solve systems of equations?</li> </ul>	<ul style="list-style-type: none"> <li>• Solve systems graphically with a line and a parabola</li> <li>• Understand trial and error is a valid process to solve equations</li> </ul>	<ul style="list-style-type: none"> <li>• Use calculator correctly to solve equations</li> </ul>	Oct.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
TRANSFORMATIONS (GG #54-61)	<ul style="list-style-type: none"> <li>• Reflections</li> <li>• Translations</li> <li>• Rotations</li> </ul>	<ul style="list-style-type: none"> <li>• How do we identify transformations in a coordinate plane?</li> </ul>	<ul style="list-style-type: none"> <li>• Define and investigate rotations, reflections and translations</li> <li>• Explain affect transformations have on initial object</li> </ul>	<ul style="list-style-type: none"> <li>• Identify different transformations</li> </ul>	Nov.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
	<ul style="list-style-type: none"> <li>• Dilations</li> </ul>	<ul style="list-style-type: none"> <li>• How do we identify dilations in a coordinate plane?</li> <li>• What measure will change?</li> <li>• What properties are preserved?</li> </ul>	<ul style="list-style-type: none"> <li>• Explain center of dilation</li> <li>• Explain constant of dilation</li> <li>• Explain effect dilations have on an initial object</li> </ul>	<ul style="list-style-type: none"> <li>• Identify dilations</li> </ul>	Nov.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• How do we recognize and graph dilations and transformations?</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and graph dilations and transformations</li> </ul>	<ul style="list-style-type: none"> <li>• Construct transformations and dilations</li> </ul>	Nov.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
	<ul style="list-style-type: none"> <li>• Locus &amp; Constructions</li> </ul>	<ul style="list-style-type: none"> <li>• What is a locus of points?</li> <li>• How do we combine loci?</li> </ul>	<ul style="list-style-type: none"> <li>• Explain five basic loci</li> <li>• Find equations for loci</li> <li>• Graph and describe loci</li> </ul>	<ul style="list-style-type: none"> <li>• Draw and solve simple loci situations</li> </ul>	Nov.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Can we construct geometric figures?</li> <li>• How is it done?</li> </ul>	<ul style="list-style-type: none"> <li>• Construct congruent angles and segments, angle bisectors, perpendicular bisectors, lines parallel or perpendicular to a line and equilateral triangles</li> </ul>	<ul style="list-style-type: none"> <li>• Use compass and ruler to perform constructions</li> </ul>	Nov.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
LOGIC (GG #24-27)	<ul style="list-style-type: none"> <li>• Logic</li> </ul>	<ul style="list-style-type: none"> <li>• What are the different forms of a conditional statement?</li> </ul>	<ul style="list-style-type: none"> <li>• Tell truth values of statements involving not, and, or, if/then and if and only if</li> <li>• Write inverse, converse &amp; contrapositive of statements</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and write conditional statements</li> </ul>	Dec.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>
	<ul style="list-style-type: none"> <li>• Indirect Proofs</li> </ul>	<ul style="list-style-type: none"> <li>• How is an indirect proof different from a regular geometry proof?</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate and apply theorems for proof by contradiction</li> </ul>	<ul style="list-style-type: none"> <li>• Write an indirect proof</li> </ul>	Dec.	<ul style="list-style-type: none"> <li>• Homework</li> <li>• Quizzes</li> <li>• Tests</li> </ul>

GEOMETRY (GG #28-31) (GG #35) (GG #41-48)	<ul style="list-style-type: none"> <li>Triangle Classification</li> </ul>	<ul style="list-style-type: none"> <li>What are the basic classifications of triangles?</li> <li>How do we use angles to classify triangles?</li> </ul>	<ul style="list-style-type: none"> <li>Identify angle measurements</li> <li>Identify types of angles/triangles</li> <li>Explain complementary and supplementary angles</li> <li>Identify adjacent and vertical angles</li> <li>Identify properties of triangles (sum of their angles, <math>S+S&gt;L</math>)</li> <li>Identify exterior angles of a triangle</li> </ul>	<ul style="list-style-type: none"> <li>Identify and draw given triangles</li> </ul>	Dec.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Pythagorean's Theorem</li> </ul>	<ul style="list-style-type: none"> <li>What is the Pythagorean Theorem?</li> <li>How can you prove that a triangle is a right triangle?</li> </ul>	<ul style="list-style-type: none"> <li>Identify Pythagoreans' Theorem</li> <li>Use theorem to prove a triangle is a right triangle</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use Pythagorean's Theorem correctly</li> </ul>	Dec.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Triangle Congruence</li> </ul>	<ul style="list-style-type: none"> <li>How do you prove triangles are congruent?</li> <li>How are equilateral triangles different from isosceles?</li> </ul>	<ul style="list-style-type: none"> <li>Determine congruence of 2 triangles by using one of the 5 congruence techniques using corresponding parts</li> </ul>	<ul style="list-style-type: none"> <li>Use SSS, SAS, ASA, AAS and HL</li> <li>Use CPCTC</li> </ul>	Jan.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Parallel Lines cut by a Transversal</li> </ul>	<ul style="list-style-type: none"> <li>What kinds of angles are formed when parallel lines are cut by a transversal?</li> </ul>	<ul style="list-style-type: none"> <li>Use parallel lines to find congruent angles on a transversal</li> </ul>	<ul style="list-style-type: none"> <li>Identify and find special angles formed</li> </ul>	Jan.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Angle formulas</li> </ul>	<ul style="list-style-type: none"> <li>What is the sum of the angles of a hexagon?</li> </ul>	<ul style="list-style-type: none"> <li>Use the triangle sum and exterior angle theorem and the formulas for interior and exterior angles of a polygon</li> </ul>	<ul style="list-style-type: none"> <li>Use interior and exterior angle formulas</li> </ul>	Jan.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
<b>Midterm Review &amp; Exam</b>						
POLYGONS	<ul style="list-style-type: none"> <li>Quadrilaterals</li> </ul>	<ul style="list-style-type: none"> <li>What are the family relationships for quadrilaterals?</li> </ul>	<ul style="list-style-type: none"> <li>Identify special quadrilaterals by their characteristics</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use properties to categorize special quadrilaterals</li> </ul>	Feb.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>

	<ul style="list-style-type: none"> <li>Parallelogram</li> </ul>	<ul style="list-style-type: none"> <li>What are the special properties of parallelograms?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the properties of parallelograms</li> <li>Use properties of parallel lines and parallelograms to prove a quadrilateral is a parallelogram</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use properties to categorize parallelograms</li> </ul>	Feb.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Rectangle</li> </ul>	<ul style="list-style-type: none"> <li>What are the special properties of rectangles?</li> <li>How can we prove a parallelogram is a rectangle?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the properties of rectangles</li> <li>Apply properties of a rectangle to prove a quadrilateral is a rectangle</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use properties to categorize rectangles</li> </ul>	Feb.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Rhombus</li> </ul>	<ul style="list-style-type: none"> <li>What are the special properties of a rhombus?</li> <li>How can we prove a parallelogram is a rhombus?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the properties of a rhombus</li> <li>Apply properties of a rhombus to prove a quadrilateral is a rhombus</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use properties to categorize rhombi</li> </ul>	Feb.	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Square</li> </ul>	<ul style="list-style-type: none"> <li>What are the special properties of a square?</li> <li>How can we prove a quadrilateral is a square?</li> </ul>	<ul style="list-style-type: none"> <li>Identify the properties of rectangles</li> <li>Apply properties of a square to prove a quadrilateral is a square</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use properties to categorize squares</li> </ul>	March	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li>Tessellations</li> </ul>	<ul style="list-style-type: none"> <li>Which shapes can be tessellated?</li> </ul>	<ul style="list-style-type: none"> <li>Identify works by M.C. Escher</li> <li>Complete a tessellation of own choice</li> </ul>	<ul style="list-style-type: none"> <li>Identify and complete a tessellation</li> </ul>	March	<ul style="list-style-type: none"> <li>Project</li> </ul>
CIRCLES (GG #49-53)	<ul style="list-style-type: none"> <li>Geometry of the circle</li> </ul>	<ul style="list-style-type: none"> <li>What are the segments and lines related to a circle?</li> </ul>	<ul style="list-style-type: none"> <li>Define and identify radius, diameter, arcs, chords, tangent segments, secant segments</li> </ul>	<ul style="list-style-type: none"> <li>Identify parts of a circle</li> </ul>	March	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>How do you find the center and radius from the equation of a circle?</li> </ul>	<ul style="list-style-type: none"> <li>Write equation of a circle drawn in coordinate plane</li> </ul>	<ul style="list-style-type: none"> <li>Identify parts of a circle equation</li> </ul>	March	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>
	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li>How do we find the measurements of angles and arcs?</li> </ul>	<ul style="list-style-type: none"> <li>Identify and use formulas to find arcs and angles</li> </ul>	<ul style="list-style-type: none"> <li>Use calculator to solve equations</li> </ul>	April	<ul style="list-style-type: none"> <li>Homework</li> <li>Quizzes</li> <li>Tests</li> </ul>

AREA	•	• How are perimeter, circumference and area different from one another?	• Define perimeter, circumference and area and when each is used	• Identify uses for perimeter, circumference and area	April	• Homework • Quizzes • Tests
	•	• How can we find perimeters, circumferences and areas of various regular geometric shapes?	• Identify and use formulas to find perimeters, circumferences and areas	• Use calculator to solve equations	April	• Homework • Quizzes • Tests
	• Coordinate Area of Polygons	• How do you find the area of an irregular polygon drawn on the coordinate plane?	• Use the "box-in" technique to find the area of an irregular polygon graphed on the coordinate plane	• Graph an irregular polygon • Identify technique to find area	April	• Homework • Quizzes • Tests
	•	• How does finding the area of the various figures apply to everyday situations such as carpeting a floor or fencing a yard?	• Identify everyday situations and problems that can be addressed by using formulas for perimeter and area	• Identify and use formulas for perimeter and area	May	• Project
SOLIDS (GG #10-16)	• Solids	• How can you identify the plane solids and their properties? • What everyday items can be classified as prisms, pyramids, spheres, cylinders and cones?	• Identify properties of prisms, pyramids, cylinders, cones, spheres	• Identify plane solids seen in the real world	May	• Homework • Quizzes • Tests
	•	• How can the surface area of rectangular prisms, triangular prisms, cylinders, cones and pyramids be calculated?	• Use formulas to find surface areas of solids	• Use calculator to solve equations	May	• Homework • Quizzes • Tests

	•	• How can the volume of rectangular prisms, triangular prisms, cylinders, cones and pyramids be calculated?	• Use formulas to find volume of solids	• Use calculator to solve equations	June	• Homework • Quizzes • Tests
	•	• How is a sphere different from a circle? • How do we find surface area and volume of sphere?	• Identify the relationships between circles and spheres • Use formulas and measurements to find surface area and volume	• Identify differences between circles and spheres	June	• Homework • Quizzes • Tests
	•	• How does finding the surface area and volume of the various solids apply to everyday situations?	• Identify everyday situations and problems that can be addressed by using formulas for surface area and volume	• Identify how volume and surface area apply in the real world	June	• Homework • Quizzes • Tests
<b>Final Project - June</b>						