GRADE LEVEL: HIGH SCHOOL **SUBJECT: GEOMETRY** **DATE: 2021 – 2022**

GRADING PERIOD: QUARTER 1 **MASTER COPY 4/12/2022**

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
LOGIC AND PROOFS					
• RELATIONSHIPS WITHIN AN AXIOMATIC SYSTEM • DIFFERENCES AMONG TYPES OF SUPPORTING EVIDENCE • COUNTEREXAMPLES • PROOFS	**G.LP.1:** Understand and describe the structure of and relationships within an axiomatic system (undefined terms, definitions, axioms and postulates, methods of reasoning, and theorems). Understand the differences among supporting evidence, counterexamples, and actual proofs.	• Identify and name defined terms and undefined terms from the vocabulary list. • Apply definitions, postulates, and theorems to justify and support conclusions. • Explain the difference between supporting evidence, counter examples and actual proofs.	• Teacher observation • Daily assignments • Quiz/Test	• Points • Lines • Planes • Segments • Angles • Midpoints • Coordinate plane • Parallel lines • Transversals • Counter example • Proofs	CRITICAL
• ANGLES • PARALLEL LINES • PERPENDICULAR LINES • LINE SEGMENTS	**G.LP.2:** Use precise definitions for angle, circle, perpendicular lines, parallel lines, and line segment, based on the undefined notions of point, line, and plane. Use standard geometric notation.	• Define angles, parallel lines, perpendicular lines, and line segments. • Use standard geometric notation.	• Teacher observation • Daily assignments • Quiz/Test	• Perpendicular lines	CRITICAL
• CONDITIONAL STATEMENTS • BI-CONDITIONAL STATEMENTS	**G.LP.3:** State, use, and examine the validity of the converse, inverse, and contrapositive of conditional (“if – then”) and bi-conditional (“if and only if”) statements.	• Develop converse, inverse, contrapositive, and bi-conditional statements from a given conditional statement. • Determine the truth value of the above statements.	• Teacher observation • Daily assignments • Quiz/Test	• Conditional statements • Converse • Inverse • Contrapositive • Bi-conditional	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
LOGIC AND PROOFS					
• GEOMETRIC PROOFS	**G.LP.4:** Understand that proof is the means used to demonstrate whether a statement is true or false mathematically. Develop geometric proofs, including those involving coordinate geometry, using two-column, paragraph, and flow chart formats.	• Understand that proof is the means used to demonstrate whether a statement is true or false mathematically. • Develop geometric proofs, including those involving coordinate geometry, using two-column, paragraph, and flow chart formats.	• Teacher observation • Daily assignments • Quiz/Test	• Coordinate proofs • Two-column Proofs • Paragraph proofs • Flow chart proofs	CRITICAL
POINTS, LINES, AND ANGLES					
• VERTICAL ANGLES • ANGLED FORMED BY PARALLEL LINES CUT BY A TRANSVERSAL	**G.PL.1:** Prove and apply theorems about lines and angles, including the following: a. Vertical angles are congruent. b. When a transversal crosses parallel lines, alternate interior angles are congruent, alternate exterior angles are congruent, and corresponding angles are congruent. c. When a transversal crosses parallel lines, same side interior angles are supplementary. Points on a perpendicular bisector of a line segment are exactly those equidistant from the endpoints of the segment.	• Prove and apply theorems about vertical angles, corresponding angles, alternate interior angles, same side interior angles, alternate exterior angles. • Prove and apply theorems about perpendicular bisectors.	• Teacher observation • Daily assignments • Quiz/Test	• Vertical angles • Corresponding angles • Alternate interior angles • Same side interior angles • Alternate exterior angles • Perpendicular bisectors	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
POINTS, LINES, AND ANGLES					
• SLOPE • EQUATIONS OF LINES	**G.PL.2:** Explore the relationships of the slopes of parallel and perpendicular lines. Determine if a pair of lines are parallel, perpendicular, or neither by comparing the slopes in coordinate graphs and equations.	• Determine if two lines are parallel, perpendicular or neither comparing slopes in coordinate graphs and in equations. • Write equations of lines parallel or perpendicular to a given line.	• Teacher observation • Daily assignments • Quiz/Test	• Slope • Equation of lines	CRITICAL
• CONSTRUCTIONS	**G.PL.3:** Use tools to explain and justify the process to construct congruent segments and angles, angle bisectors, perpendicular bisectors, altitudes, medians, and parallel and perpendicular lines.	• Construct congruent segments and angles, angle bisectors, perpendicular bisectors, parallel and perpendicular lines. • Use a variety of tools and methods: compass, straightedge, string, reflective devices, paper folding, dynamic geometric software. • Explain and justify the construction processes.	• Teacher observation • Daily assignments • Quiz/Test	• Angle bisector • Congruent	IMPORANT
• PYTHAGOREAN THEOREM • DISTANCE FORMULA • MIDPOINT FORMULA	**G.PL.4:** Develop the distance formula using the Pythagorean Theorem. Find the lengths and midpoints of line segments in the two-dimensional coordinate system.	• Develop the distance formula using the Pythagorean Theorem. • Find lengths and midpoints of segments given the coordinates of their endpoints.	• Teacher observation • Daily assignments • Quiz/Test	• Pythagorean Theorem • Midpoint • Distance formula	CRITICAL

GRADE LEVEL: HIGH SCHOOL **SUBJECT: GEOMETRY** **DATE: 2021 – 2022**

GRADING PERIOD: QUARTER 2 **Master Copy 4/12/2022**

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
LOGIC AND PROOFS					
• PROOFS	**G.LP.1:** Understand and describe the structure of and relationships within an axiomatic system (undefined terms, definitions, axioms and postulates, methods of reasoning, and theorems). Understand the differences among supporting evidence, counterexamples, and actual proofs.	• Develop and explain two-column proofs, flow chart proofs and paragraph proofs. • Develop and explain proofs involving coordinate geometry.	• Quiz • Test • Student Presentations	• Proof • Counter-example	CRITICAL
• COORDINATE PROOFS • TWO-COLUMN PROOFS • FLOW CHART PROOFS • PARAGRAPH PROOFS	**G.LP.4:** Understand that proof is the means used to demonstrate whether a statement is true or false mathematically. Develop geometric proofs, including those involving coordinate geometry, using two-column, paragraph, and flow chart formats.	• Develop and explain two-column proofs, flow chart proofs and paragraph proofs. • Develop and explain proofs involving coordinate geometry.	• Quiz • Test • Student Presentations	• Indirect proof • Coordinate proofs	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
POINTS, LINES AND ANGLES					
• CONSTRUCTIONS	**G.PL.3:** Use tools to explain and justify the process to construct congruent segments and angles, angle bisectors, perpendicular bisectors, altitudes, medians, and parallel and perpendicular lines.	• Construct congruent segments and angles, angle bisectors, perpendicular bisectors, altitudes, medians. • Use a variety of tools and methods: compass, straightedge, string, reflective devices, paper folding, dynamic geometric software. • Explain and justify the construction processes.	• Teacher Observation • Quiz	• Angle bisector • Congruent • Altitude • Median	CRITICAL
TRIANGLES					
• THEOREMS OF TRIANGLES	**G.T.1:** Prove and apply theorems about triangles, including the following: a. Measures of interior angles of a triangle sum to 180°. b. The Isosceles Triangle Theorem and its converse. c. The Pythagorean Theorem. d. The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length. e. A line parallel to one side of a triangle divides the other two proportionally, and its converse. f. The Angle Bisector Theorem. g.	• Classify triangles by sides and angles. • Prove and apply triangle sum theorem. • Prove and apply isosceles triangle theorems. • Prove and apply the triangle mid-segment theorem. • Prove and apply properties of isosceles triangles. • Prove and apply the Pythagorean Theorem. • Prove and apply the third angle theorem. • Prove and apply exterior angle theorem.	• Graphic Organizers • Quiz • Test • Teacher Observation	• Equilateral • Isosceles • Scalene • Acute • Right • Obtuse • Triangle Sum • Centroid	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
TRIANGLES					
• TRIANGLE CONGRUENCE	**G.T.2:** Explore and explain how the criteria for triangle congruence (ASA, SAS, AAS, SSS, and HL) follow from the definition of congruence in terms of rigid motions.	• Identify and prove triangle congruence by SSS, SAS, ASA, AAS and HL.	• Quiz • Test • Class Presentations	• SSS • ASA • SAS • AAS • HL	CRITICAL
• CONGRUENT TRIANGLE CONSTRUCTIONS	**G.T.3:** Use tools to explain and justify the process to construct congruent triangles.	• Construct congruent triangles with a variety of geometric tools. • Construct points of concurrency of triangles. • Explain the process of these constructions.	• Discovery Activity • Quiz • Test	• Circumcenter • Incenter • Orthocenter • Altitude	CRITICAL
• PROPERTIES OF CONGRUENT TRIANGLES	**G.T.5:** Use congruent and similar triangles to solve real-world and mathematical problems involving sides, perimeters, and areas of triangles.	• Solve real-world problems involving congruent triangles. • Solve problems using CPCTC (corresponding parts of congruent triangles are congruent).	• Quiz • Test	• CPCTC	CRITICAL
• TRIANGLE INEQUALITY THEOREMS	**G.T.6:** Prove and apply the inequality theorems, including the following: a. Triangle inequality. b. Inequality in one triangle. The hinge theorem and its converse.	• Prove and apply triangle inequality theorem. • Prove and apply inequality in one triangle. • Prove and apply the hinge theorem.	• Quiz • Test	• Triangle inequality • Inequality in one triangle theorem • Hinge theorem	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
QUADRILATERALS AND OTHER POLYGONS					
• PARALLELOGRAMS	**G.QP.1:** Prove and apply theorems about parallelograms, including those involving angles, diagonals, and sides.	• Describe and classify the relationships that exist between all parallelograms: – Opposite sides are congruent – Opposite angles are congruent – Diagonals bisect each other – Rectangles are parallelograms with congruent diagonals. • Solve problems of real-world nature involving parallelograms.	• Quiz • Test	• Parallelograms	CRITICAL
• QUADRILATERALS • RHOMBUS • RECTANGLE • SQUARE • TRAPEZOID • KITE	**G.QP.2:** Prove that given quadrilaterals are parallelograms, rhombuses, rectangles, squares, kites, or trapezoids. Include coordinate proofs of quadrilaterals in the coordinate plane.	• Describe and classify the relationships that exist between: – Parallelograms – Rhombuses – Rectangles – Squares – Trapezoids – Kites • Use coordinate geometry to find lengths and classify quadrilaterals.	• Quiz • Test	• Quadrilaterals • Rhombus • Rectangle • Square • Trapezoid • Kite	CRITICAL
• POLYGONS • INTERIOR AND EXTERIOR ANGLES OF POLYGONS	**G.QP.3:** Develop and use formulas to find measures of interior and exterior angles of polygons.	• Calculate the measure of interior angles and different regular and irregular polygons. • Calculate the exterior angles of different regular and irregular polygons. • Calculate the sum of all interior angles of polygons.	• Quiz • Test	• Polygons • Interior angles of polygons • Exterior angles of polygons	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
CIRCLES					
• INSCRIBED CIRCLES • CIRCUMCSRIBED CIRCLES	**G.CI.6:** Use tools to construct the inscribed and circumscribed circles of a triangle. Prove properties of angles for a quadrilateral inscribed in a circle.	• Use tools to construct the inscribed and circumscribed circles of a triangle.	• Discovery Activity • Teacher Observation • Quiz • Test	• Circumscribe • Inscribe	CRITICAL

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GRADING PERIOD: QUARTER 3 **Master Copy 4/12/2022**

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
TRIANGLES					
• SIMILARITY • SIMILAR TRIANGLES	**G.T.4:** Use the definition of similarity in terms of similarity transformations, to determine if two given triangles are similar. Explore and develop the meaning of similarity for triangles.	• Identify similar triangles using the AA, SSS, and SAS similarity postulate • Use similar triangles to solve problems	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• AA Similarity • SAS Similarity • SSS Similarity	CRITICAL
• REAL-WORLD PROBLEMS • CONGRUENT TRIANGLES • SIMILAR TRIANGLES	**G.T.5:** Use congruent and similar triangles to solve real-world and mathematical problems involving sides, perimeters, and areas of triangles.	• Recognize and use proportional relationships of corresponding angle bisectors, altitudes, and medians of similar triangles. • Use the triangle bisector theorem	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Triangle Angle Bisector Theorem	CRITICAL
• GEOMETRI MEAN	**G.T.7:** Explore the relationships that exist when the altitude is drawn to the hypotenuse of a right triangle. Understand and use the geometric mean to solve for missing parts of triangles.	• Find the geometric mean between two numbers • Solve problems involving relationships between parts of a right triangle and the altitude to its hypotenuse	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Geometric Mean • Geometric Mean in Right Triangles • Altitude Theorem • Leg Theorem	CRITICAL
• TRIGONOMETRIC RATIOS	**G.T.8:** Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	• Use Law of Sines to solve triangles	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Law of Sines	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
TRIANGLES					
• SINE • COSINE • TANGENT	**G.T.9:** Use trigonometric ratios (sine, cosine, tangent and their inverses) and the Pythagorean Theorem to solve real-world and mathematical problems involving right triangles.	• Find trigonometric ratios using right triangles • Use trigonometric ratios to find missing angles in right triangles • Use the Pythagorean Theorem and its converse	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Trigonometric Ratios • Inverse Trigonometric Ratios • Solving a Right Triangle • Pythagorean Theorem • Converse of the Pythagorean Theorem • Pythagorean Inequalities	CRITICAL
• SPECIAL RIGHT TRIANGLES	**G.T.10:** Explore the relationship between the sides of special right triangles (30° - 60° and 45° - 45°) and use them to solve real-world and other mathematical problems.	• Use the properties of 45-45-90 triangle and 30-60-90 triangles	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test		CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
TRANSFORMATIONS					
• TRANSFORMATIONS	**G.TR.1:** Use geometric descriptions of rigid motions to transform figures and to predict and describe the results of translations, reflections and rotations on a given figure. Describe a motion or series of motions that will show two shapes are congruent.	• Draw reflections • Draw reflections on the coordinate plane • Draw translations • Draw translations on the coordinate plane • Draw rotations • Draw rotations on the coordinate plane	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Reflection in a Line • Reflection in the x-axis • Reflection in the y-axis • Reflection in the line y=x • Translation • Rotation • Clockwise • Counter-clockwise	CRITICAL
• DILATIONS	**G.TR.2:** Verify experimentally the properties of dilations given by a center and a scale factor. Understand the dilation of a line segment is longer or shorter in the ratio given by the scale factor.	• Draw dilations • Draw dilations in the coordinate plane	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Dilation • Enlargement • Reduction	CRITICAL

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GRADING PERIOD: QUARTER 4 **MASTER COPY 4/12/2022**

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
QUADRILATERALS AND OTHER POLYGONS					
• LINE SYMMETRY • POINT SYMMETRY • ROTATIONAL SYMMETRY	**G.QP.4:** Identify types of symmetry of polygons, including line, point, rotational, and self-congruences.	• Identify line, point and rotational symmetry in polygons. • Identify self-congruences in polygons.	• Teacher observation • Daily assignments • Quiz/Test	• Line symmetry • Point symmetry • Rotational symmetry	CRITICAL
• PERIMETER OF POLYGONS • AREA OF POLYGONS	**G.QP.5:** Compute perimeters and areas of polygons in the coordinate plane to solve real-world and other mathematical problems.	• Compute perimeters and areas of polygons in the coordinate plane. • Use these values to solve mathematical and other real-world problems.	• Teacher observation • Daily assignments • Quiz/Test		CRITICAL
• AREA OF REGULAR POLYGONS	**G.QP.6:** Develop and use formulas for areas of regular polygons.	• Develop and use formulas for areas of regular polygons.	• Teacher observation • Daily assignments • Quiz/Test	• Regular polygon	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
CIRCLES					
• PROPERTIES OF CIRCLES	**G.CI.1:** Define, identify and use relationships among the following: radius, diameter, arc, measure of an arc, chord, secant, tangent, congruent circles, and concentric circles.	• Define, identify and use the relationships among the following properties of circles: radius, diameter, arc, measure of an arc, chord, secant, tangent, congruent circles, and concentric circles.	• Teacher observation • Daily assignments • Quiz/Test	• Radius • Diameter • Arc • Chord • Secant • Tangent • Congruent circles • Concentric circles	CRITICAL
• ARC LENGTH • AREA OF A SECTOR	**G.CI.2:** Derive the fact that the length of the arc intercepted by an angle is proportional to the radius; derive the formula for the area of a sector.	• Derive the formula for area of a sector of a circle and use it to find areas of circles. • Derive the fact that the length of the arc intercepted by an angle is proportional to the radius.	• Teacher observation • Daily assignments • Quiz/Test	• Sector	CRITICAL
• CENTRAL ANGLES • INSCRIBED ANGLES • CIRCUMSCRIBED ANGLES • TANGENT LINES	**G.CI.3:** Explore and use relationships among inscribed angles, radii, and chords, including the following: a. The relationship that exists between central, inscribed, and circumscribed angles. b. Inscribed angles on a diameter are right angles. c. The radius of a circle is perpendicular to a tangent where the radius intersects the circle.	• Identify and use the relationship between central angles and their intercepted arcs. • Identify and use the relationship between inscribed angles and their intercepted arcs. • Identify and use the relationship between circumscribed angles and their intercepted arcs. • Understand that a line tangent to a circle is perpendicular to the radius of the circle at the point of tangency.	• Teacher observation • Daily assignments • Quiz/Test	• Central angles • Inscribed angles • Circumscribed Angles • Tangent lines	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
CIRCLES					
• REAL-WORLD PROBLEMS	**G.CI.4:** Solve real-world and other mathematical problems that involve finding measures of circumference, areas of circles and sectors, and arc lengths and related angles (central, inscribed, and intersections of secants and tangents).	• Solve real world problems involving circles and all of their parts.	• Teacher observation • Daily assignments • Quiz/Test	• Sectors of a circle	CRITICAL
• CONSTRUCTING CIRCLES • TANGENTS TO CIRCLES	**G.CI.5:** Use tools to explain and justify the process to construct a circle that passes through three given points not on a line, a tangent line to a circle through a point on the circle, and a tangent line from a point outside a given circle to the circle.	• Construct a circle that passes through three given non-collinear points. • Construct a tangent line to a circle through a point on the circle. • Construct a tangent line to a circle through a point on the outside of the circle.	• Teacher observation • Daily assignments • Quiz/Test		IMPORTANT
• QUADRILATERALS INSCRIBED IN CIRCLES	**G.CI.6:** Use tools to construct the inscribed and circumscribed circles of a triangle. Prove properties of angles for a quadrilateral inscribed in a circle.	• Prove properties of angles for a quadrilateral inscribed in a circle.	• Teacher observation • Daily assignments • Quiz/Test		IMPORTANT

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
THREE-DIMENSIONAL SOLIDS					
• THREE-DIMENSIONAL SOLIDS • NETS	**G.TS.1:** Create a net for a given three-dimensional solid. Describe the three-dimensional solid that can be made from a given net (or pattern).	• Create a net for a given three-dimensional solid. • Describe the three-dimensional solid that can be made from a given net (or pattern).	• Teacher observation • Daily assignments • Quiz/Test	• Three-Dimensional Solids • Nets	IMPORTANT
• SYMMETRIES OF THREE-DIMENTIONAL SOLIDS	**G.TS.2:** Explore and use symmetries of three-dimensional solids to solve problems.	• Explore and use plane, rotational symmetries of three-dimensional solids to solve problems.	• Teacher observation • Daily assignments • Quiz/Test	• Plane symmetry • Rotational symmetry	CRITICAL
• PROPERTIES OF CONGRUENT SOLIDS • PROPERTIES OF SIMILAR SOLIDS	**G.TS.3:** Explore properties of congruent and similar solids, including prisms, regular pyramids, cylinders, cones, and spheres and use them to solve problems.	• Explore properties of congruent and similar solids, including prisms, regular pyramids, cylinders, cones, and spheres. • Solve problems involving three-dimensional solids.	• Homework • Quiz • Chapter Review • Review Activities • Chapter Test	• Prisms • Cylinders • Cones • Spheres • Pyramids	IMPORTANT
• VOLUME OF THREE-DIMENSIONAL FIGURES • SURFACE AREA OF THREE-DIMENSIONAL FIGURES	**G.TS.4:** Solve real-world and other mathematical problems involving volume and surface area of prisms, cylinders, cones, spheres, and pyramids, including problems that involve composite solids and algebraic expressions.	• Solve real-world and other mathematical problems involving volume and surface area of prisms, cylinders, cones, spheres, and pyramids, including problems that involve composite solids and algebraic expressions.	• Teacher observation • Daily assignments • Quiz/Test	• Composite solids • Volume of solids	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
THREE-DIMENSIONAL SOLIDS					
• DESIGN PROBLEMS	**G.TS.5:** Apply geometric methods to create and solve design problems.	• Apply geometric methods to create and solve design problems.	• Teacher observation • Daily assignments • Quiz/Test	• Design problems	IMPORTANT