

Curriculum Guide
Orono High School
Mathematics Geometry A & Geometry B

Resources Used in Course:

TEXT: Geometry: Concepts and Applications, The McGraw-Hill Companies, Inc., Columbus, Ohio, 2006.

WEBSITE: www.geomconcepts.com This website offers a wide variety of Online Study Tools.

CALCULATOR: Scientific Calculator

Unit/Area of Instruction	Concept & Skills	Learning Results	Summative Assessment	Projected Timeframe
1: Reasoning in Geometry	a. Identify patterns and use inductive reasoning. b. Identify and draw models of points, lines, and planes, and determine their characteristics. c. Identify and use basic postulates about points, lines, and planes. d. Write statements in if-then form and write the converses of the statements. e. Use geometry tools. f. Use a four-step plan to solve problems that involve the perimeters and areas of rectangles and parallelograms.	B1	Chapter Test and Quizzes	Q 1
2: Segment Measure and Coordinate Graphing	a. Find the distance between two points on a number line. b. Apply the properties of real numbers to the measure of segments. c. Identify congruent segments and find the midpoints of segments. d. Name and graph ordered pairs on a coordinate plane. e. Find the coordinates of the midpoint of a segment.	B1, D4	Chapter Test and Quizzes	Q 1
3: Angles	a. Name and identify parts of an angle. b. Measure, draw, and classify angles. c. Find the measure of an angle and the bisector of an angle. d. Identify and use adjacent angles and linear pairs of angles. e. Identify and use complementary and supplementary angles. f. Identify and use congruent and vertical angles. g. Identify, use properties of, and construct perpendicular lines and segments.	B1	Chapter Test and Quizzes	Q 1

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4: Parallels	a. Describe relationships among lines, parts of lines, and planes. b. Identify the relationships among pairs of interior and exterior angles formed by two parallel lines and a transversal. c. Identify the relationships among pairs of interior and exterior angles formed by two parallel lines and a transversal. d. Identify conditions that produce parallel lines and construct parallel lines. e. Find the slopes of lines and use slope to identify parallel and perpendicular lines. f. Write and graph equations of lines.	B1	Chapter Test and Quizzes	Q 2
5: Triangles and Congruence	a. Identify the parts of triangles and classify triangles by their parts. b. Use the Angle Sum Theorem. c. Identify translations, reflections, and rotations and their corresponding parts. d. Name and label corresponding parts of congruent triangles. e. Explore congruence postulates. f. Use the SSS and SAS tests for congruence. g. Use the ASA and AAS tests for congruence.	B1, C1	Chapter Test and Quizzes	Q 2
6: More about Triangles	a. Identify and construct medians in triangles. b. Identify and construct altitudes and perpendicular bisectors in triangles. c. Identify and use angle bisectors in triangles. d. Identify and use properties of isosceles triangles. e. Use tests for congruence of right triangles. f. Use the Pythagorean Theorem and its converse. g. Find the distance between two points on the coordinate plane.	B1, C1	Chapter Test and Quizzes	Q 2
7: Triangle Inequalities	a. Apply inequalities to segment and angle measures. b. Identify exterior angles and remote interior angles of a triangle and use the Exterior Angle Theorem. c. Identify the relationships between the sides and angles of a triangle. d. Identify and use the Triangle Inequality Theorem.	B1, C1	Chapter Test and Quizzes	Q 3

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8: Quadrilaterals	a. Identify parts of quadrilaterals and find the sum of the measures of the interior angles of a quadrilateral. b. Identify and use the properties of parallelograms. c. Identify and use tests to show that a quadrilateral is a parallelogram. d. Identify and use the properties of rectangles, rhombi, and squares. e. Identify and use the properties of trapezoids and isosceles trapezoids.	B1, C1	Chapter Test and Quizzes	Q 3
9: Proportions and Similarity	a. Use ratios and proportions to solve problems. b. Identify similar polygons. c. Use AA, SSS, and SAS similarity tests for triangles. d. Identify and use the relationships between proportional parts of triangles. e. Use proportions to determine whether lines are parallel to sides of triangles. f. Identify and use the relationships between parallel lines and proportional parts. g. Identify and use proportional relationships of similar triangles.	B1, C1	Chapter Test and Quizzes	Q 3
10: Polygons and Area	a. Name polygons according to the number of sides and angles. b. Find measures of interior and exterior angles of polygons. c. Estimate the areas of polygons. d. Find the areas of trapezoids and triangles. e. Find the areas of regular polygons. f. Identify figures with line symmetry and rotational symmetry. g. Identify tessellations and create them by using transformations.	B1, C1, D1	Chapter Test and Quizzes	Q 3
11: Circles	a. Identify and use parts of circles. b. Identify major arcs, minor arcs, and semicircles and find the measures of arcs and central angles. c. Identify and use the relationships among arcs, chords, and diameters. d. Inscribe regular polygons in circles and explore the relationships between the length of a chord and its distance from the center of the circle. e. Solve problems involving circumferences of circles. f. Solve problems involving area and sector of circles.	B1, C2	Chapter Test and Quizzes	Q 3 & Q 4

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12: Surface Area and Volume	a. Identify solid figures. b. Find the lateral areas and surface areas of prisms and cylinders. c. Find the volumes of prisms and cylinders. d. Find the lateral areas and surface areas of regular pyramids and cones. e. Find the volumes of pyramids and cones. f. Find the surface areas and volumes of spheres. g. Identify and use the relationships between similar solid figures.	B1, C1, C4, D1	Chapter Test and Quizzes	Q 4
13: Right Triangles and Trigonometry	a. Multiply, divide, and simplify radical expressions. b. Use the properties of 45° - 45° - 90° triangles. c. Use the properties of 30° - 60° - 90° triangles. d. Use the tangent ratio to solve problems. e. Use the sine and cosine ratios to solve problems.	B1, C1, C3	Chapter Test and Quizzes	Q 4
14: Circle Relationships	a. Identify and use properties of inscribed angles. b. Identify and apply properties of tangents to circles. c. Find measures of arcs and angles formed by secants. d. Find measures of arcs and angles formed by secants and tangents. e. Find measures of chords, secants, and tangents. f. Write equations of circles using the center and the radius.	B1, C1, C2, C3	Chapter Test and Quizzes	Q 4