Information for Course Syllabus

Name of Course: Geometry A

Grade Level: 10-11

School: ORHS

Major Assignments: Interactive Notebook;
                                        Learning Target Assessments

Field Trips: None

How can parents access instructional materials? Canvas

Geometry A
2021-2022

Term 1

Rigid Transformation/Construction	**G.CO.A.1** Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, plane, distance along a line, and distance around a circular arc.
	G.CO.A.2 Represent transformations in the plane in multiple ways, including technology. Describe transformations as functions that take points in the plane (pre-image) as inputs and give other points (image) as outputs. Compare transformations that preserve distance and angle measure to those that do not (e.g., translation versus horizontal stretch).
	G.CO.A.3 Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry the shape onto itself.
	G.CO.A.4 Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.
	G.CO.A.5 Given a geometric figure and a rigid motion, draw the image of the figure in multiple ways, including technology. Specify a sequence of rigid motions that will carry a given figure onto another.
	G.CO.B.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to determine informally if they are congruent.
	G.CO.B.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
	G.CO.B.8 Explain how the criteria for triangle congruence (ASA, SAS, AAS, and SSS) follow from the definition of congruence in terms of rigid motions.
	G.CO.C.9 Prove theorems about lines and angles.
	G.CO.C.10 Prove theorems about triangles.
	G.CO.C.11 Prove theorems about parallelograms.
	G.CO.D.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).

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Term 2

Congruence	**G.CO.B.6** Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to determine informally if they are congruent.
	G.CO.B.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
	G.CO.B.8 Explain how the criteria for triangle congruence (ASA, SAS, AAS, and SSS) follow from the definition of congruence in terms of rigid motions.
	G.CO.C.10 Prove theorems about triangles. Proving includes, but is not limited to, completing partial proofs; constructing two-column or paragraph proofs; using transformations to prove theorems; analyzing proofs; and critiquing completed proofs. Theorems include, but are not limited to, measures of interior angles of a triangle sum to $180°$; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.
	G.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to justify relationships in geometric figures.

Similarity	**G.SRT.A.1** Verify informally the properties of dilations given by a center and a scale factor.
	G.SRT.A.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
	G.SRT.A.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.
	G.SRT.B.4 Prove theorems about similar triangles.
	G.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to justify relationships in geometric figures.