

Standard ID	Standard Text	Edgenuity Lesson Name
G.1.	Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:	
G.1 (A)	Apply mathematics to problems arising in everyday life, society, and the workplace.	Solving for Angle Measures of Right Solving for Side Lengths of Right Triangles Theoretical and Experimental Probability
G.1 (B)	Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	Introduction to Proof Solving for Angle Measures of Right Solving for Side Lengths of Right Triangles
G.1 (C)	Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.	Performance Task: Constructions Reflections Similar Figures Translations Triangles and Their Side Lengths
G.1 (D)	Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	Finding Outcomes Introduction to Proof Probability and Two-Way Tables Rotations Sets and Venn Diagrams
G.1 (E)	Create and use representations to organize, record, and communicate mathematical ideas.	Defining Terms Introduction to Proof Probability and Two-Way Tables Sets and Venn Diagrams Writing Linear Equations
G.1 (F)	Analyze mathematical relationships to connect and communicate mathematical ideas.	Angle Relationships Conditional Probability Trigonometric Ratios

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G.1 (F)	Analyze mathematical relationships to connect and communicate mathematical ideas. <i>(cont'd)</i>	Using Triangle Congruence Theorems Using Triangle Similarity Theorems
G.1 (G)	Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.	Centroid and Orthocenter Triangle Congruence: SSS and HL Triangle Similarity: SSS and SAS
G.2.	Coordinate and transformational geometry. The student uses the process skills to understand the connections between algebra and geometry and uses the one- and two-dimensional coordinate systems to verify geometric conjectures. The student is expected to:	
G.2 (A)	Determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint.	Directed Line Segments and Modeling Measuring Length and Angles
G.2 (B)	Derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.	Applications of Slope and the Distance Formula Figures in the Coordinate Plane Partitioning a Line Segment Slope of a Line Slopes of Parallel and Perpendicular Lines Writing Linear Equations
G.2 (C)	Determine an equation of a line parallel or perpendicular to a given line that passes through a given point.	Writing Linear Equations
G.3.	Coordinate and transformational geometry. The student uses the process skills to generate and describe rigid transformations (translation, reflection, and rotation) and non-rigid transformations (dilations that preserve similarity and reductions and enlargements that do not preserve similarity). The student is expected to:	
G.3 (A)	Describe and perform transformations of figures in a plane using coordinate notation.	Compositions Reflections Rotations Translations

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G.3 (B)	Determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane.	Compositions Similar Figures
G.3 (C)	Identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.	Compositions
G.3 (D)	Identify and distinguish between reflectional and rotational symmetry in a plane figure.	Symmetry
G.4.	Logical argument and constructions. The student uses the process skills with deductive reasoning to understand geometric relationships. The student is expected to:	
G.4 (A)	Distinguish between undefined terms, definitions, postulates, conjectures, and theorems.	Defining Terms Euclidean Geometry Introduction to Proof
G.4 (B)	Identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse.	Compound Statements Conditional Statements and Equivalence
G.4 (C)	Verify that a conjecture is false using a counterexample.	Compound Statements Conditional Statements and Equivalence
G.4 (D)	Compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle.	Euclidean Geometry
G.5.	Logical argument and constructions. The student uses constructions to validate conjectures about geometric figures. The student is expected to:	
G.5 (A)	Investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools.	Angle Measures of Polygons Angle Relationships Central Angles

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G.5 (A)	Investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools. <i>(cont'd)</i>	Centroid and Orthocenter Incenter and Circumcenter Inscribed Angles Introduction to Circles Lines Cut by a Transversal Proving a Quadrilateral Is a Parallelogram Secants, Tangents, and Angles Special Segments Trapezoids and Kites Triangle Congruence: ASA and AAS Triangle Congruence: SAS Triangle Congruence: SSS and HL
G.5 (B)	Construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge.	Parallel and Perpendicular Lines Performance Task: Constructions
G.5 (C)	Use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.	Incenter and Circumcenter Lines Cut by a Transversal Performance Task: Constructions
G.5 (D)	Verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.	Triangles and Their Side Lengths
G.6.	Proof and congruence. The student uses the process skills with deductive reasoning to prove and apply theorems by using a variety of methods such as coordinate, transformational, and axiomatic and formats such as two-column, paragraph, and flow chart. The student is expected to:	
G.6 (A)	Verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems.	Complementary and Supplementary Angles Linear Pairs and Vertical Angles

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G.6 (A)	Verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems. (<i>cont'd</i>)	Lines Cut by a Transversal Parallel and Perpendicular Lines Proving Lines Parallel
G.6 (B)	Prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions.	Triangle Congruence: ASA and AAS Triangle Congruence: SAS Triangle Congruence: SSS and HL Using Triangle Congruence Theorems
G.6 (C)	Apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles.	Congruent Figures
G.6 (D)	Verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.	Centroid and Orthocenter Isosceles Triangles Right Triangle Similarity Triangle Angle Theorems Using Triangle Similarity Theorems
G.6 (E)	Prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.	Figures in the Coordinate Plane Parallelograms Proving a Quadrilateral Is a Parallelogram Special Parallelograms
G.7.	Similarity, proof, and trigonometry. The student uses the process skills in applying similarity to solve problems. The student is expected to:	
G.7 (A)	Apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.	Dilations Similar Figures

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G.7 (B)	Apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.	Triangle Similarity: AA
G.8.	Similarity, proof, and trigonometry. The student uses the process skills with deductive reasoning to prove and apply theorems by using a variety of methods such as coordinate, transformational, and axiomatic and formats such as two-column, paragraph, and flow chart. The student is expected to:	
G.8 (A)	Prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.	Triangle Similarity: AA Triangle Similarity: SSS and SAS Using Triangle Similarity Theorems
G.8 (B)	Identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.	Right Triangle Similarity
G.9.	Similarity, proof, and trigonometry. The student uses the process skills to understand and apply relationships in right triangles. The student is expected to:	
G.9 (A)	Determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.	Solving for Angle Measures of Right Solving for Side Lengths of Right Triangles Trigonometric Ratios
G.9 (B)	Apply the relationships in special right triangles 30° - 60° - 90° and 45° - 45° - 90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.	Right Triangle Similarity Special Right Triangles Triangle Classification Theorems
G.10.	Two-dimensional and three-dimensional figures. The student uses the process skills to recognize characteristics and dimensional changes of two- and three-dimensional figures. The student is expected to:	
G.10 (A)	Identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.	Three-Dimensional Figures and Cross Sections
G.10 (B)	Determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.	Changing Dimensions of 3-D Figures

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G.11.	Two-dimensional and three-dimensional figures. The student uses the process skills in the application of formulas to determine measures of two- and three-dimensional figures. The student is expected to:	
G.11 (A)	Apply the formula for the area of regular polygons to solve problems using appropriate units of measure.	Area of Regular Polygons
G.11 (B)	Determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure.	Area of Composite Figures
G.11 (C)	Apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.	Surface Area
G.11 (D)	Apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.	Cavalieri's Principle and Volume of Composite Figures Volume of Cylinders, Cones, and Spheres Volume of Prisms Volume of Pyramids
G.12.	Circles. The student uses the process skills to understand geometric relationships and apply theorems and equations about circles. The student is expected to:	
G.12 (A)	Apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems.	Angle Relationships Central Angles Inscribed Angles Performance Task: Circle Constructions Secants, Tangents, and Angles Special Segments
G.12 (B)	Apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems.	Circumference and Arc Length
G.12 (C)	Apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems.	Area of a Circle and a Sector
G.12 (D)	Describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.	

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G.12 (E)	Show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k) , $(x - h)^2 + (y - k)^2 = r^2$.	Equation of a Circle
G.13.	Probability. The student uses the process skills to understand probability in real-world situations and how to apply independence and dependence of events. The student is expected to:	
G.13 (A)	Develop strategies to use permutations and combinations to solve contextual problems.	Finding Outcomes Probability with Combinations and Permutations
G.13 (B)	Determine probabilities based on area to solve contextual problems.	Theoretical and Experimental Probability
G.13 (C)	Identify whether two events are independent and compute the probability	Conditional Probability Independent and Mutually Exclusive Events Probability and Two-Way Tables
G.13 (D)	Apply conditional probability in contextual problems.	Conditional Probability Probability and Two-Way Tables
G.13 (E)	Apply independence in contextual problems.	Conditional Probability Independent and Mutually Exclusive Events Probability and Two-Way Tables