Standard ID	Standard Text	Edgenuity Lesson Name
HSG-CO	Congruence	
HSG-CO.A	Experiment with transformations in the plane	
HSG-CO.A.1	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Euclidean Geometry Defining Terms Measuring Length and Angles
HSG-CO.A.2	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	Introduction to Transformations Reflections Translations Rotations
HSG-CO.A.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Symmetry
HSG-CO.A.4	Develop definitions of rotations, reflections and translations in terms of angles, circles, perpendicular lines, parallel lines and line segments.	Reflections Translations Rotations
HSG-CO.A.5	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	Reflections Translations Rotations Triangle Congruence: SAS Triangle Congruence: ASA and AAS Triangle Congruence: SSS and HL
HSG-CO.B	Understand congruence in terms of rigid motions	
HSG-CO.B.6	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a rigid motion on a figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Triangle Congruence: SAS Triangle Congruence: ASA and AAS Triangle Congruence: SSS and HL
HSG-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.	Triangle Congruence: SSS and HL

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HSG-CO.B.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence.	Triangle Congruence: SAS Triangle Congruence: ASA and AAS Triangle Congruence: SSS and HL
HSG-CO.C	Prove geometric theorems	
HSG-CO.C.9	Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.	Introduction to Proof Linear Pairs and Vertical Angles Complementary and Supplementary Angles Parallel and Perpendicular Lines Lines Cut by a Transversal Proving Lines Parallel
HSG-CO.C.10	Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180Â°; 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.	Triangle Angle Theorems Triangles and Their Side Lengths Isosceles Triangles Centroid and Orthocenter Triangle Congruence: ASA and AAS
HSG-CO.C.11	Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other and conversely, rectangle are parallelograms with congruent diagonals.	Classifying Quadrilaterals Parallelograms Proving a Quadrilateral Is a Parallelogram Special Parallelograms Trapezoids and Kites
HSG-CO.D	Make geometric constructions	
HSG-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). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.	Parallel and Perpendicular Lines Triangles and Their Side Lengths
HSG-CO.D.13	Construct an equilateral triangle, a square and a regular hexagon inscribed in a circle.	Triangles and Their Side Lengths

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HSG-SRT	Similarity, Right Triangles, and Trigonometry	
HSG-SRT.A	Understand similarity in terms of similarity transformations	
HSG-SRT.A.1	Verify experimentally the properties of dilations given by a center and a scale factor:	
HSG-SRT.A.1a	A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.	Dilations Similar Figures
HSG-SRT.A.1b	The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	Dilations Similar Figures
HSG-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.	Similar Figures Triangle Similarity: AA
HSG-SRT.A.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	Triangle Similarity: AA
HSG-SRT.B	Prove theorems involving similarity	
HSG-SRT.B.4	Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean theorem proved using triangle similarity.	Triangle Similarity: SSS and SAS Using Triangle Similarity Theorems Right Triangle Similarity
HSG-SRT.B.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Using Triangle Congruence Theorems Triangle Similarity: SSS and SAS Using Triangle Similarity Theorems Right Triangle Similarity
HSG-SRT.C	Define trigonometric ratios and solve problems involving right triangles	
HSG-SRT.C.6	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.	Trigonometric Ratios
HSG-SRT.C.7	Explain and use the relationship between the sine and cosine of complementary angles.	Trigonometric Ratios

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HSG-SRT.C.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	Solving for Side Lengths of Right Triangles Solving for Angle Measures of Right Triangles Area of Regular Polygons
HSG-SRT.D	Apply trigonometry to general triangles	
HSG-SRT.D.9	(+) Derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	Area and Perimeter of Triangles
HSG-SRT.D.10	(+) Prove the Laws of Sines and Cosines and use them to solve problems.	Law of Sines Law of Cosines
HSG-SRT.D.11	(+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	Law of Sines Law of Cosines
HSG-C	Circles	
HSG-C.A	Understand and apply theorems about circles	
HSG-C.A.1	Prove that all circles are similar.	Introduction to Circles
HSG-C.A.2	Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.	Central Angles Inscribed Angles Secants, Tangents, and Angles Special Segments Angle Relationships
HSG-C.A.3	Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.	Inscribed Angles
HSG-C.A.4	(+) Construct a tangent line from a point outside a given circle to the circle.	
HSG-C.B	Find arc lengths and areas of sectors of circles	
HSG-C.B.5	Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.	Circumference and Arc Length Area of a Circle and a Sector

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HSG-GPE	Expressing Geometric Properties with Equations	
HSG-GPE.A	Translate between the geometric description and the equation for a conic section	
HSG-GPE.A.1	Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.	Equation of a Circle
HSG-GPE.A.2	Derive the equation of a parabola given a focus and directrix.	Parabolas
HSG-GPE.B	Use coordinates to prove simple geometric theorems algebraically	
HSG-GPE.B.4	Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1,âˆš3) lies on the circle centered at the origin and containing the point (0, 2).	Figures in the Coordinate Plane Equation of a Circle
HSG-GPE.B.5	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Slopes of Parallel and Perpendicular Lines Writing Linear Equations
HSG-GPE.B.6	Find the point on a directed line segment between two given points that divide the segment in a given ratio.	Directed Line Segments and Modeling
HSG-GPE.B.7	Use coordinates to compute perimeters of polygons and areas for triangles and rectangles, e.g. using the distance formula.	Figures in the Coordinate Plane Area of Triangles and Parallelograms Perimeter and Area of Rhombi, Trapezoids, and Kites
HSG-GMD	Geometric Measurement and Dimension	
HSG-GMD.A	Explain volume formulas and use them to solve problems	
HSG-GMD.A.1	Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.	Circumference and Arc Length Area of a Circle and a Sector Volume of Pyramids Volume of Cylinders, Cones, and Spheres

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HSG-GMD.A.3	Use volume formulas for cylinders, pyramids, cones and spheres to solve problems.	Volume of Pyramids Volume of Cylinders, Cones, and Spheres
HSG-GMD.B	Visualize the relation between two-dimensional and three-dimensional objects	
HSG-GMD.B.4	Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	Three-Dimensional Figures and Cross Sections
HSG-MG	Modeling with Geometry	
HSG-MG.A	Apply geometric concepts in modeling situations	
HSG-MG.A.1	Use geometric shapes, their measures and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).	Triangle Inequalities Triangle Classification Theorems Classifying Quadrilaterals Special Parallelograms Trapezoids and Kites Special Segments Circumference and Arc Length Perimeter and Area of Rhombi, Trapezoids, and Kites Area of Regular Polygons Volume of Prisms
HSG-MG.A.2	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	Density and Design Problems Volume of Prisms
HSG-MG.A.3	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy constraints or minimize cost; working with typographic grid systems based on ratios).	Directed Line Segments and Modeling Density and Design Problems Volume of Prisms
HSS-CP	Conditional Probability and the Rules of Probability	
HSS-CP.A	Understand independence and conditional probability and use them to interpret data	
HSS-CP.A.1	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (''or,'' ''and,'' ''not'').	Sets and Venn Diagrams Finding Outcomes Theoretical and Experimental Probability

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HSS-CP.A.2	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Independent and Mutually Exclusive Events
HSS-CP.A.3	Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.	Conditional Probability
HSS-CP.A.4	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.	Probability and Two-Way Tables
HSS-CP.A.5	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.	Conditional Probability Probability and Two-Way Tables
HSS-CP.B	Use the rules of probability to compute probabilities of compound events in a uniform probability model	
HSS-CP.B.6	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A and interpret the answer in terms of the model.	Conditional Probability Probability and Two-Way Tables
HSS-CP.B.7	Apply the Addition Rule, P(A or B) = P(A) + P(B) - P(A and B), and interpret the answer in terms of the model.	Independent and Mutually Exclusive Events
HSS-CP.B.8	(+) Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.	Conditional Probability
HSS-CP.B.9	(+) Use permutations and combinations to compute probabilities of compound events and solve problems.	Probability with Combinations and Permutations