Standard ID	Standard Text	Edgenuity Lesson Name
CCSS.HSG-CO	**Congruence**	
CCSS.HSG-CO.A	Experiment with transformations in the plane	
CCSS.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.	Defining Terms Euclidean Geometry Measuring Length and Angles
CCSS.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).	Compositions Introduction to Transformations Reflections Rotations Translations
CCSS.HSG-CO.A.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Symmetry
CCSS.HSG-CO.A.4	Develop definitions of rotations, reflections and translations in terms of angles, circles, perpendicular lines, parallel lines and line segments.	Reflections Rotations Translations
CCSS.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.	Compositions Reflections Rotations Translations Triangle Congruence: ASA and AAS Triangle Congruence: SAS Triangle Congruence: SSS and HL

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CCSS.HSG-CO.B	Understand congruence in terms of rigid motions	
CCSS.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.	Congruent Figures Triangle Congruence: ASA and AAS Triangle Congruence: SAS Triangle Congruence: SSS and HL
CCSS.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.	Congruent Figures Triangle Congruence: SSS and HL
CCSS.HSG-CO.B.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence.	Performance Task: Congruency Proofs Triangle Congruence: ASA and AAS Triangle Congruence: SAS Triangle Congruence: SSS and HL
CCSS.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.	Complementary and Supplementary Angles Introduction to Proof Linear Pairs and Vertical Angles Lines Cut by a Transversal Parallel and Perpendicular Lines Proving Lines Parallel
CCSS.HSG-CO.C.10	Prove theorems about triangles. Theorems include: 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.	Centroid and Orthocenter Isosceles Triangles Triangle Angle Theorems Triangle Congruence: ASA and AAS Triangles and Their Side Lengths

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CCSS.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
CCSS.HSG-CO.D	Make geometric constructions	
CCSS.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 Performance Task: Constructions Triangles and Their Side Lengths
CCSS.HSG-CO.D.13	Construct an equilateral triangle, a square and a regular hexagon inscribed in a circle.	Performance Task: Circle Constructions
CCSS.HSG-SRT	**Similarity, Right Triangles, and Trigonometry**	
CCSS.HSG-SRT.A	Understand similarity in terms of similarity transformations	
CCSS.HSG-SRT.A.1	Verify experimentally the properties of dilations given by a center and a scale factor:	
CCSS.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
CCSS.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
CCSS.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
CCSS.HSG-SRT.A.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	Triangle Similarity: AA

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CCSS.HSG-SRT.B	Prove theorems involving similarity	
CCSS.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.	Right Triangle Similarity Triangle Similarity: SSS and SAS Using Triangle Similarity Theorems
CCSS.HSG-SRT.B.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	Performance Task: Congruency Proofs Right Triangle Similarity Triangle Similarity: SSS and SAS Using Triangle Congruence Theorems Using Triangle Similarity Theorems
CCSS.HSG-SRT.C	Define trigonometric ratios and solve problems involving right triangles	
CCSS.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
CCSS.HSG-SRT.C.7	Explain and use the relationship between the sine and cosine of complementary angles.	Trigonometric Ratios
CCSS.HSG-SRT.C.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	Area of Regular Polygons Solving for Angle Measures of Right Triangles Solving for Side Lengths of Right Triangles
CCSS.HSG-SRT.D	Apply trigonometry to general triangles	
CCSS.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
CCSS.HSG-SRT.D.10	(+) Prove the Laws of Sines and Cosines and use them to solve problems.	Law of Cosines Law of Sines
CCSS.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 Cosines Law of Sines

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CCSS.HSG-C	**Circles**	
CCSS.HSG-C.A	Understand and apply theorems about circles	
CCSS.HSG-C.A.1	Prove that all circles are similar.	Introduction to Circles
CCSS.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.	Angle Relationships Central Angles Inscribed Angles Secants, Tangents, and Angles Special Segments
CCSS.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.	Incenter and Circumcenter Inscribed Angles
CCSS.HSG-C.A.4	(+) Construct a tangent line from a point outside a given circle to the circle.	Performance Task: Circle Constructions
CCSS.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.	Area of a Circle and a Sector Circumference and Arc Length
CCSS.HSG-GPE	**Expressing Geometric Properties with Equations**	
CCSS.HSG-GPE.A	Translate between the geometric description and the equation for a conic section	
CCSS.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
CCSS.HSG-GPE.A.2	Derive the equation of a parabola given a focus and directrix.	Parabolas
CCSS.HSG-GPE.B	Use coordinates to prove simple geometric theorems algebraically	
CCSS.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, √3) lies on the circle centered at the origin and containing the point (0, 2).	Equation of a Circle Figures in the Coordinate Plane

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CCSS.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
CCSS.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
CCSS.HSG-GPE.B.7	Use coordinates to compute perimeters of polygons and areas for triangles and rectangles, e.g. using the distance formula.	Area of Triangles and Parallelograms Figures in the Coordinate Plane Perimeter and Area of Rhombi, Trapezoids, and Kites
CCSS.HSG-GMD	**Geometric Measurement and Dimension**	
CCSS.HSG-GMD.A	Explain volume formulas and use them to solve problems	
CCSS.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.	Area of a Circle and a Sector Circumference and Arc Length Volume of Cylinders, Cones, and Spheres Volume of Pyramids
CCSS.HSG-GMD.A.3	Use volume formulas for cylinders, pyramids, cones and spheres to solve problems.	Cavalieri's Principle and Volume of Composite Figures Volume of Cylinders, Cones, and Spheres Volume of Pyramids
CCSS.HSG-GMD.B	Visualize the relation between two-dimensional and three-dimensional objects	
CCSS.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

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CCSS.HSG-MG	**Modeling with Geometry**	
CCSS.HSG-MG.A	Apply geometric concepts in modeling situations	
CCSS.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).	Angle Measures of Polygons Area of Composite Figures Area of Regular Polygons Circumference and Arc Length Classifying Quadrilaterals Perimeter and Area of Rhombi, Trapezoids, and Kites Special Parallelograms Special Right Triangles Special Segments Trapezoids and Kites Triangle Classification Theorems Triangle Inequalities Volume of Prisms
CCSS.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).	Cavalieri's Principle and Volume of Composite Figures Density and Design Problems Volume of Prisms
CCSS.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).	Density and Design Problems Directed Line Segments and Modeling Volume of Prisms
CCSS.HSS-CP	**Conditional Probability and the Rules of Probability**	
CCSS.HSS-CP.A	Understand independence and conditional probability and use them to interpret data	
CCSS.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'').	Finding Outcomes Sets and Venn Diagrams Theoretical and Experimental Probability

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CCSS.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
CCSS.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
CCSS.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
CCSS.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
CCSS.HSS-CP.B	Use the rules of probability to compute probabilities of compound events in a uniform probability model	
CCSS.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
CCSS.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
CCSS.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
CCSS.HSS-CP.B.9	(+) Use permutations and combinations to compute probabilities of compound events and solve problems.	Probability with Combinations and Permutations

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CCSS.Math.Content.HSS-MD	**Using Probability to Make Decisions**	
CCSS.HSS-MD.B	Use probability to evaluate outcomes of decisions	
CCSS.HSS-MD.B.6	(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	Performance Task: Applying Probability Concepts
CCSS.HSS-MD.B.7	(+) Analyze decisions and strategies using probability concepts (e.g. product testing, medical testing, pulling a hockey goalie at the end of a game).	Performance Task: Applying Probability Concepts