Standard ID	Standard Text	Edgenuity Lesson Name
N	Number & Quantity	
N-RN	The Real Number System	
N-RN.A	Extend the properties of exponents to rational exponents.	
N-RN.A.1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define 5^1/3 to be the cube root of 5 because we want (5^1/3)^3 = 5^(1/3)^3 to hold, so (5^1/3)^3 must equal 5.	
		Exponential Functions with Radical Bases
N-RN.A.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	
		Exponential Functions with Radical Bases
N-RN.B	Use properties of rational and irrational numbers.	
N-RN.B.3	Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	
		Solving Quadratic Equations: Completing the Square
N-CN	The Complex Number System	
N-CN.A	Perform arithmetic operations with complex numbers.	
N-CN.A.1	Know there is a complex number i such that i^2 = -1, and every complex number has the form a + bi with a and b real.	
		Complex Numbers
N-CN.A.2	Use the relation i^2 = -1 and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	
		Operations with Complex Numbers
N-CN.C	Use complex numbers in polynomial identities and equations.	
N-CN.C.7	Solve quadratic equations with real coefficients that have complex solutions.	
		Completing the Square
		The Quadratic Formula
N-CN.C.8	(+) Extend polynomial identities to the complex numbers. For example, rewrite x^2 + 4 as (x + 2i)(x - 2i).	
		The Fundamental Theorem of Algebra

Standard ID	Standard Text	Edgenuity Lesson Name
N-CN.C.9	(+) Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.	
		Completing the Square
		The Fundamental Theorem of Algebra
		The Quadratic Formula
		Writing Polynomial Functions from Complex Roots
A	Algebra	
A-SSE	Seeing Structure in Expressions	
A-SSE.A	Interpret the structure of expressions.	
A-SSE.A.1	Interpret expressions that represent a quantity in terms of its context.	
A-SSE.A.1a	Interpret parts of an expression, such as terms, factors, and coefficients.	
		Introduction to Polynomials
		Multiplying Polynomials and Simplifying Expressions
A-SSE.A.1b	Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret P(1+r)^n as the product of P and a factor not depending on P.	
		Factoring Polynomials: GCF
A-SSE.A.2	Use the structure of an expression to identify ways to rewrite it. For example, see x^4 - y^4 as (x^2)^2 - (y^2)^2, thus recognizing it as a difference of squares that can be factored as (x^2 - y^2)(x^2 + y^2).	
		Factoring Polynomials: Difference of Squares
		Factoring Polynomials: Double Grouping
		Factoring Polynomials: GCF
		Factoring Polynomials: Sum and Difference of Cubes
		Factoring Trinomials: a = 1
		Factoring Trinomials: a > 1
		Introduction to Polynomials
A-SSE.B	Write expressions in equivalent forms to solve problems.	
A-SSE.B.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.	
A-SSE.B.3a	Factor a quadratic expression to reveal the zeros of the function it defines.	
		Quadratic Functions: Standard Form

Standard ID	Standard Text	Edgenuity Lesson Name
A-SSE.B.3b	Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.	Completing the Square Completing the Square (Continued)
A-SSE.B.3c	Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15^t can be rewritten as (1.15^(1/12))^12t ≈ 1.012^12t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.	Exponential Functions with Radical Bases
A-APR	Arithmetic with Polynomials and Rational Functions	
A-APR.A	Perform arithmetic operations on polynomials.	
A-APR.A.1	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	Adding and Subtracting Polynomials Multiplying Monomials and Binomials Multiplying Polynomials and Simplifying Expressions
A-CED	Creating Equations	
A-CED.A	Create equations that describe numbers or relationships.	
A-CED.A.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Modeling with Quadratic Equations Quadratic Inequalities
A-CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	Modeling with Quadratic Functions
A-CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR to highlight resistance R.	Literal Equations

Standard ID	Standard Text	Edgenuity Lesson Name
A-REI	Reasoning with Equations and Inequalities	
A-REI.B	Solve equations and inequalities in one variable.	
A-REI.B.4	Solve quadratic equations in one variable.	
A-REI.B.4a	Use the method of completing the square to transform any quadratic equation in x into an equation of the form (x - p)^2 = q that has the same solutions. Derive the quadratic formula from this form.	
		Introduction to the Quadratic Formula
		Solving Quadratic Equations: Completing the Square
		Solving Quadratic Equations: Completing the Square (Continued)
A-REI.B.4b	Solve quadratic equations by inspection (e.g., for x^2 = 49), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a plus-minus bi for real numbers a and b.	
		Introduction to the Quadratic Formula
		Modeling with Quadratic Equations
		Solving Quadratic Equations: Completing the Square
		Solving Quadratic Equations: Completing the Square (Continued)
		Solving Quadratic Equations: Factoring
		Solving Quadratic Equations: Quadratic Formula
		Solving Quadratic Equations: Square Root Property
		Solving Quadratic Equations: Zero Product Property
A-REI.C	Solve systems of equations.	
A-REI.C.7	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line y = -3x and the circle x^2 + y^2 = 3.	
		Solving Linear-Quadratic Systems

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F	Functions	
F-IF	Interpreting Functions	
F-IF.B	Interpret functions that arise in applications in terms of the context.	
F-IF.B.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.	
		Completing the Square
		Completing the Square (Continued)
		Introduction to Quadratic Functions
		Modeling with Quadratic Functions
		Quadratic Functions: Factored Form
		Quadratic Functions: Vertex Form
F-IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.	
		Quadratic Functions: Factored Form
		Quadratic Functions: Standard Form
F-IF.B.6	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	
		Introduction to Quadratic Functions
F-IF.C	Analyze functions using different representations.	
F-IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.	
F-IF.C.7a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	
		Completing the Square
		Completing the Square (Continued)
		Introduction to Quadratic Functions
		Modeling with Quadratic Functions
		Quadratic Functions: Factored Form
		Quadratic Functions: Standard Form
		Quadratic Functions: Vertex Form

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F-IF.C.7b	Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	
		Absolute Value Functions and Translations
		Linear Piecewise Defined Functions
		Step Functions
		The Cube Root Function
		The Square Root Function
F-IF.C.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	
F-IF.C.8a	Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	
		Completing the Square
		Completing the Square (Continued)
		Modeling with Quadratic Functions
F-IF.C.8b	Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as y = (1.02)^t, y = (0.97)^t, y = (1.01)^12t, y = (1.2)^t/10, and classify them as representing exponential growth or decay.	
		Rewriting Exponential Functions
F-IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	
		Quadratic Functions: Factored Form
F-BF	Building Functions	
F-BF.A	Build a function that models a relationship between two quantities.	
F-BF.A.1	Write a function that describes a relationship between two quantities.	
F-BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	
		Completing the Square (Continued)
		Modeling with Quadratic Functions
F-BF.A.1b	Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.	
		Translations of Exponential Functions

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F-BF.B	Build new functions from existing functions.	
F-BF.B.3	Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	Quadratic Functions: Vertex Form
F-BF.B.4	Find inverse functions.	
F-BF.B.4a	Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. For example, f(x) =2 x^3 for x > 0 or f(x) = (x+1)/(x-1) for x ≠ 1.	Evaluating Functions
F-LE	Linear, Quadratic, and Exponential Models	
F-LE.A	Construct and compare linear and exponential models and solve problems.	
F-LE.A.3	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	Comparing Exponential, Linear, and Quadratic Growth
F-TF	Trigonometric Functions	
F-TF.C	Prove and apply trigonometric identities.	
F-TF.C.8	Prove the Pythagorean identity sin^2(Θ) + cos^2(Θ) = 1 and use it to find sin(Θ), cos(Θ), or tan(Θ) given sin(Θ), cos(Θ), or tan(Θ) and the quadrant of the angle.	Evaluating the Six Trigonometric Functions
G	Geometry	
G-CO	Congruence	
G-CO.C	Prove geometric theorems	
G-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.	Lines Cut by a Transversal Parallel and Perpendicular Lines Proving Lines Parallel

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G-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
		Triangles and Their Side Lengths
G-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
G-SRT	Similarity, Right Triangles, and Trigonometry	
G-SRT.A	Understand similarity in terms of similarity transformations	
G-SRT.A.1	Verify experimentally the properties of dilations given by a center and a scale factor:	
G-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
G-SRT.A.1b	The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	
		Dilations
		Similar Figures
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.	
		Similar Figures
		Triangle Similarity: AA
G-SRT.A.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	
		Triangle Similarity: AA

Standard ID	Standard Text	Edgenuity Lesson Name
G-SRT.B	Prove theorems involving similarity	
G-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
G-SRT.B.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	
		Right Triangle Similarity
		Triangle Similarity: SSS and SAS
		Using Triangle Similarity Theorems
G-SRT.C	Define trigonometric ratios and solve problems involving right triangles	
G-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
G-SRT.C.7	Explain and use the relationship between the sine and cosine of complementary angles.	
		Trigonometric Ratios
G-SRT.C.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	
		Solving for Side Lengths of Right Triangles
G-C	Circles	
G-C.A	Understand and apply theorems about circles	
G-C.A.1	Prove that all circles are similar.	
		Introduction to Circles
G-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
G-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
G-C.A.4	(+) Construct a tangent line from a point outside a given circle to the circle.	
		Performance Task: Circle Constructions

Standard ID	Standard Text	Edgenuity Lesson Name
G-C.B	Find arc lengths and areas of sectors of circles	
G-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
G-GPE	Expressing Geometric Properties with Equations	
G-GPE.A	Translate between the geometric description and the equation for a conic section	
G-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
G-GPE.A.2	Derive the equation of a parabola given a focus and directrix.	
		Parabolas
G-GPE.B	Use coordinates to prove simple geometric theorems algebraically	
G-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
G-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
G-GMD	Geometric Measurement and Dimension	
G-GMD.A	Explain volume formulas and use them to solve problems	
G-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
		Cavalieri's Principle and Volume of Composite Figures
		Circumference and Arc Length
		Volume of Cylinders, Cones, and Spheres
		Volume of Pyramids
G-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

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S	Statistics & Probability	
S-CP	Conditional Probability and the Rules of Probability	
S-CP.A	Understand independence and conditional probability and use them to interpret data	
S-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
S-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
S-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
S-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
S-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
S-CP.B	Use the rules of probability to compute probabilities of compound events in a uniform probability model	
S-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
S-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

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S-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
S-CP.B.9	(+) Use permutations and combinations to compute probabilities of compound events and solve problems.	Probability with Combinations and Permutations
S-MD	Using Probability to Make Decisions	
S-MD.B	Use probability to evaluate outcomes of decisions	
S-MD.B.6	(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	Performance Task: Applying Probability Concepts

Standard ID	Standard Text	Edgenuity Lesson Name
S-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