

Standard(s)	Unit/Topic	Essential Skills: What do students absolutely need for the next level?	Resources Used	Assessment
<p>S-ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).</p> <p>S-ID.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.</p> <p>S-ID.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).</p>	<p>Statistics</p>	<ul style="list-style-type: none"> -Central Tendency -Box Plots -Quartiles -Histograms -IQR and Standard D. -2-Way Frequency Table -Bivariate Data -Linear Regression -Other Types of Regression -Correlation Coefficient -Residuals 	<ul style="list-style-type: none"> -IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath 	<ul style="list-style-type: none"> -Formative in-class activities -Written / Multiple Choice exams

<p>A-APR.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</p> <p>N-RN.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.</p> <p>A-SSE.3c Use the properties of exponents to transform expressions for exponential functions.</p>	<p>Polynomials and Properties</p>	<ul style="list-style-type: none"> -Number Sets -Commutative and Associative Property -Distributive Property -Adding and Subtracting Polynomials -Exponent Rules -Multiplying Polynomials -Dividing Polynomials 	<ul style="list-style-type: none"> -IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath 	<ul style="list-style-type: none"> -Formative in-class activities -Written / Multiple Choice exams
<p>A-REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a</p>	<p>Solving Equations</p>	<ul style="list-style-type: none"> -Basic Equation Solving -Equations and Their Solutions -Seeing Structure to Solve Equations -Linear Equation Solving -Justifying Steps in Equation Solving 	<ul style="list-style-type: none"> -IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math 	<ul style="list-style-type: none"> -Formative in-class activities -Written / Multiple Choice exams

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<p>viable argument to justify a solution method. A-REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. A-CED.1 Create equations and inequalities in one variable</p>		<p>-Linear Equation Word Problems -Function Notation -Composition of Functions Literal Equations.</p>		
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<p>A-CED.1 Create equations and inequalities in one variable A-CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context A-REI.3 Solve linear equations and inequalities in one variable, including</p>	<p>Inequalities Unit</p>	<p>-Inequalities -Solving Linear Inequalities -Compound Inequalities -Interval Notation -Modeling Inequalities</p>	<p>-IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath</p>	<p>-Formative in-class activities -Written / Multiple Choice exams</p>

<p>equations with coefficients represented by letters.</p>				
<p>F-IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.</p> <p>F-IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.</p> <p>F-IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in</p>	<p>Graphing Equations Unit</p>	<ul style="list-style-type: none"> -Graphs of Functions -Average Rate of Change -Domain and Range -Slope Intercept -Strange Lines 	<ul style="list-style-type: none"> -IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath 	<ul style="list-style-type: none"> -Formative in-class activities -Written / Multiple Choice exams

<p>simple cases and using technology for more complicated cases. F-IF.7a Graph linear and quadratic functions and show intercepts, maxima, and minima.</p>				
<p>A-CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context A-REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. A-REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the</p>	<p>Systems of Equations and Inequalities Unit</p>	<p>-Solutions to Systems of Equations. -Solving Systems by Substitution -Solving Systems by Elimination -Modeling Systems -Solving Equations Graphically -Graphs of Linear Inequalities -Solving Systems of Linear Inequalities Modeling Systems of Linear Inequalities</p>	<p>-IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath</p>	<p>-Formative in-class activities -Written / Multiple Choice exams</p>

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corresponding half-planes.				
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F-IF.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. A-REI.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.	Quadratics and Factoring	-Introduction to Quadratic Functions -Shifted Form of a Parabola -Factoring Polynomials -Factoring Based on Conjugate Pairs -Factoring Trinomials -Square Roots -Simplifying Square Roots	-IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath	-Formative in-class activities -Written / Multiple Choice exams

<p>A-SSE.3a Factor quadratic expression to reveal the zeros of the function it defines.</p>				
<p>A-SSE.3b Complete the square in a quadratic expression to reveal the max and min value of the function it defines. A-REI.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. A-REI.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.</p>	<p>Quadratic Equations and Systems</p>	<ul style="list-style-type: none"> -Solving Quadratics Using the Inverse Operation -Zeroes of Quadratics -Zero Product Law -Quadratic Formula -Completing the Square -Finding Zeroes by Completing the Square -Solving Linear Quadratic Systems -Quadratic Word Problems 	<ul style="list-style-type: none"> -IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath 	<ul style="list-style-type: none"> -Formative in-class activities -Written / Multiple Choice exams

<p>A-SSE.3c Use the properties of exponents to transform expressions for exponential functions F-LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions. F-LE.1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</p>	<p>Exponential Equations</p>	<p>-Introduction to Exponential Functions -Transformations of Exponential Functions -Exponential Growth and Decay -Half-Life Linear Vs Exponential</p>	<p>-IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath</p>	<p>-Formative in-class activities -Written / Multiple Choice exams</p>
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<p>F-IF.7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. F-IF.3 Recognize that sequences are functions, sometimes defined recursively, whose</p>	<p>Absolute Value and Sequence Unit</p>	<p>-Absolute Value and Step Function -Absolute Value Equation -Transform Absolute Value -Introduction to Sequences -Arithmetic Sequences -Geometric Sequences -Recursive Sequences</p>	<p>-IXL -McGraw Textbook -Khan Academy -You-tube Videos -Desmos -Delta Math -Emath</p>	<p>-Formative in-class activities -Written / Multiple Choice exams</p>

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domain is a subset of the integers F-BF.1a Determine an explicit expression, a recursive process, or steps for calculation from a context.		-Converting Between Recursive and Explicit		
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