The School District of Palm Beach County
Algebra 1 Honors
Unit A: Data Analysis
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**August 17 - August 28**	**The student will…**	**Larson Algebra 1 Lessons**
MAFS.912.S-ID.1.1 Calculator: Neutral	Represent data with plots on the real number line (dot plots, histograms, and box plots). 10.4, 10.5	Analyze Surveys and Samples Use Measures of Central Tendency and Dispersion Analyze Data Interpret Stem-and-Leaf Plots Interpret Box-and-Whisker Plots Analyze Data Distribution	• Identify populations and sampling methods. • Compare measures of central tendency and dispersion. • Find frequencies in a two-way frequency table. • Make stem-and-leaf plots and histograms. • Make and interpret box-and-whisker plots. S-ID Statistics – Interpreting Data	10-2 10-3 10-4 10-5 10-5 Ext.
MAFS.912.S-ID.1.2 Calculator: Neutral	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. 10.4, 10.5			
MAFS.912.S-ID.1.3 Calculator: Neutral	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). 10.2, 10.4, 10.5, 10.5 Ext.			
MAFS.912.S-ID.2.5 Calculator: Yes	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. 10.3			

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The School District of Palm Beach County
Algebra 1 Honors
Unit B: Expressions, Equations and Functions
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**August 31 - September 16**	**The student will…**	**Larson Algebra 1**
MAFS.912.A-CED.1.1 Calculator: Neutral	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. 1.1, 1.2, 1.3, 1.4, 1.5	Evaluate Expressions Apply Order of Operations Write Expressions Write Equations and Inequalities Use a Problem Solving Plan Use Precision and Measurement Represent Functions as Rules & Tables Represent Functions as Graphs	• Evaluate algebraic expressions and use exponents. • Use the order of operations to evaluate expressions. • Translate verbal phrases into expressions. • Translate verbal sentences into equations or inequalities. • Use a problem solving plan to solve problems. • Compare mesurements for precision. • Represent functions as rules and as tables. • Represent functions as graphs.	1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8
MAFS.912.A-CED.1.2 Calculator: Neutral	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 1.7			
MAFS.912.A-SSE.1.1 Calculator: Neutral	Interpret expressions that represent a quantity in terms of its context. a. Interpret parts of an expression, such as terms, factors, and coefficients. 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. 1.2, 1.3			
MAFS.912.F-IF.1.1 Calculator: Neutral	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). 1.7, 1.8		A-CED Algebra – Create Equations that Describe Numbers of Relationships A-REI Algebra - Reasoning with Equations and Inequalities A-SSE Algebra – Seeing Structure in Expressions F-IF Functions – Interpreting Functions F-LE Functions – Linear, Quadratic, and Exponential Models	
MAFS.912.F-IF.2.5 Calculator: Neutral	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. 1.8			
MAFS.912.F-LE.1.2 Calculator: Neutral	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). 1.8			

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The School District of Palm Beach County
Algebra 1 Honors
Unit C: Solving Linear Equations
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**September 17 - October 2**		**Larson Algebra 1**
MAFS.912.A-CED.1.1 Calculator: Neutral	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. 2.2, 2.3, 2.4, 2.5, 2.6, 2.7	Find Square Roots and Compare Real Numbers Solve One-Step Equations Solve Two-Step Equations Solve Multi-Step Equations Solve Equations with Variables on Both Sides Apply Properties of Equality Write Ratios and Proportions Solve Proportions Using Cross Products Rewrite Equations and Formulas	• Find square roots and compare real numbers. • Solve one-step equations using algebra. • Solve two-step equations. • Solve multi-step equations • Solve equations with variables on both sides. • Use algebraic properties to help solve problems. • Find ratios and write and solve proportions. • Solve proportions using cross products. • Rewrite equations and formulas. A-REI Algebra - Reasoning with Equations and Inequalities A-CED Algebra – Create Equations that Describe Numbers of Relationships N-RN Numbers – Real Numbers	2.1 2.2 2.3 2.4 2.5 2.5 Ext. 2.6 2.7 2.8
MAFS.912.A-CED.1.4 Calculator: Neutral	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. 2.8			
MAFS.912.A-REI.1.1 Calculator: No	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 viable argument to justify a solution method. 2.1 Ext., 2.2, 2.5 Ext.			
MAFS.912.A-REI.2.3 Calculator: Neutral	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8			
MAFS.912.N-RN.2.3 Calculator: No	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. 2.1			

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The School District of Palm Beach County
Algebra 1 Honors
Unit D: Graphing Linear Equations and Functions
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**October 7 - October 29**	**Students Will**	**Larson Algebra 1**
MAFS.912.A-CED.1.2 Calculator: Neutral	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 3.3, 3.5, 3.6, 3.7	Plot Points in a Coordinate Plane Graph Linear Equations Identify Discrete and Continuous Functions Graph Using Intercepts Find Slope and Rate of Change Interpreting Linear Models Graph Using Slope-Intercept Form Solve Linear Equations by Graphing Model Direct Variation Graph Linear Functions	• Identify and plot points in a coordinate plane. • Graph linear equations in a coordinate plane. • Graph and classify discrete and continuous functions. • Graph a linear equation using intercepts. • Find the slope of a line and interpret slope as a rate of change. • Interpret the slope and the y-intercept of a linear model. • Graph linear equations using slope-intercept form. • Use graphs to solve linear equations. • Write and graph direct variation equations. • Use function notation.	3.1 3.2 3.2 Ext. 3.3 3.4 3.4 pt. 2 3.5 3.5 Ext. 3.6 3.7
MAFS.912.A-CED.1.3 Calculator: Neutral	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. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods. 3.3, 3.5, 3.6			
MAFS.912.A-REI.4.10 Calculator: Neutral	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). 3.2			
MAFS.912.F-BF.2.3 Calculator: Neutral	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. 3.7			
MAFS.912.F-IF.1.2 Calculator: Neutral	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. 3.7			
MAFS.912.F-IF.2.4 Calculator: No	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. 3.3, 3.4, 3.5		F-IF Functions – Interpreting Functions A-CED Algebra – Create Equations that Describe Numbers of Relationships A-REI Algebra – Reasoning with Equations and Inequalities F-BF Functions – Building Functions S-ID Statistics – Interpreting Data	
MAFS.912.F-IF.2.5 Calculator: Neutral	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. 3.1, 3.2, 3.2 Ext., 3.3, 3.5, 3.7			
MAFS.912.F-IF.2.6 Calculator: Neutral	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. 3.4, 3.6			

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MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 3.2, 3.3, 3.5, 3.6, 3.7			
MAFS.912.S-ID.3.7 Calculator: Neutral	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. 3.4, 3.4 pt. 2			
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The School District of Palm Beach County
Algebra 1 Honors
Unit E: Writing Linear Equations
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**October 30 – November 18** Write Linear Equations in Slope-Intercept Form Use Linear Equations in Slope-Intercept Form Write Linear Equations in Point-Slope Form Relate Arithmetic Sequences to Linear Functions Write Linear Equations in Standard Form Fit a Line to Data Correlation Predict with Linear Models Assess the Fit of a Model	**The student will …** • Write equations of lines. • Write an equation of a line using points on the line. • Write linear equations in point-slope form. • Identify, graph, and write the general form of arithmetic sequences. • Write equations in standard form. • Make scatter plots and write equations to model data. • Understand the difference between causation and correlation. • Make predictions using best-fitting lines. • Assess the fit of a linear model by plotting and analyzing residuals.	**Larson Algebra 2** 4.1 4.2 4.3 4.3 Ext. 4.4 4.6 4.7 4.7 Ext. **Blender Supplemental Lesson** 4.6 pt. 2
MAFS.912.A-CED.1.2 Calculator: Neutral	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 4.1, 4.2, 4.3, 4.4, 4.6, 4.7			
MAFS.912.A-CED.1.3 Calculator: Neutral	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. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods. 4.1, 4.4			
MAFS.912.F-BF.1.1 Calculator: Neutral	Write a function that describes a relationship between two quantities. a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. 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. c. Compose functions. For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time. 4.1			
MAFS.912.F-IF.1.3 Calculator: Neutral	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$. 4.3 Ext.			
MAFS.912.F-IF.2.4 Calculator: No	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. 4.1, 4.2, 4.3, 4.4, 4.6, 4.7 Ext.			
MAFS.912.F-IF.2.5 Calculator: Neutral	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. 4.4			
MAFS.912.F-IF.2.6 Calculator: Neutral	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. 4.2, 4.3			

F-IF Functions – Interpreting Functions
A-CED Algebra – Create Equations that Describe Numbers of Relationships
A-SSE Algebra – Seeing Structure in Expressions
F-LE Functions – Linear, Quadratic, and Exponential Models
F-BF Functions – Building Functions
S-ID Statistics and Probability – Interpreting Categorical and Quantitative Data

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MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 4.3			
MAFS.912.F-LE.1.2 Calculator: Neutral	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). 4.1, 4.2, 4.3, 4.4, 4.5			
MAFS.912.F-LE.2.5 Calculator: No	Interpret the parameters in a linear or exponential function in terms of a context. 4.1			
MAFS.912.S-ID.2.6 Calculator: Neutral	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. 4.6, 4.7, 4.7 Ext.			
MAFS.912.S-ID.3.7 Calculator: Neutral	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. 4.1, 4.2, 4.3, 4.6, 4.7			
MAFS.912.S-ID.3.8 Calculator: Neutral	Compute (using technology) and interpret the correlation coefficient of a linear fit. 4.6, 4.6 pt. 2			
MAFS.912.S-ID.3.9 Calculator: Neutral	Distinguish between correlation and causation. 4.6, 4.6 pt. 2			

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The School District of Palm Beach County
Algebra 1 Honors
Unit F: Solving and Graphing Linear Inequalities
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**November 23 – January 12**		**Larson Algebra 1**
MAFS.912.A-REI.2.3 Calculator: Neutral	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. 5.1, 5.2, 5.3, 5.4	Solve Inequalities Using Addition and Subtraction Solve Inequalities Using Multiplication and Division Solve Multi-Step Inequalities Solve Compound Inequalities Solve Absolute Value Equations Graph Absolute Value Functions Solve Absolute Value Inequalities Graph Linear Inequalities in Two Variables	• Solve inequalities using addition and subtraction. • Solve inequalities using multiplication and division. • Solve multi-step inequalities. • Solve compound inequalities. • Solve absolute value equations. • Graph absolute value functions. • Solve absolute value inequalities. • Graph linear inequalities in two variables.	5.1 5.2 5.3 5.4 5.5 5.5 Ext. 5.6 5.7
MAFS.912.A-REI.4.12 Calculator: Neutral	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 corresponding half-planes. 5.7			
MAFS.912.A-CED.1.1 Calculator: Neutral	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. 5.1, 5.2, 5.3, 5.4, 5.5, 5.6			
MAFS.912.A-CED.1.3 Calculator: Neutral	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. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods. 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7			
MAFS.912.F-BF.2.3 Calculator: Neutral	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. 5.5 Ext.		A-REI Algebra – Reasoning with Equations and Inequalities A-CED Algebra – Create Equations that Describe Numbers of Relationships F-BF Functions – Building Functions F-IF Functions – Interpreting Functions	
MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 5.5 Ext.			

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The School District of Palm Beach County
Algebra 1 Honors
Unit G: Systems of Equations and Inequalities
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**January 13 – January 28**		**Larson Algebra 1**
MAFS.912.A-CED.1.2 Calculator: Neutral	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 6.1, 6.2, 6.3, 6.4, 6.5, 6.6	Solve Linear Systems by Graphing Solve Linear Systems by Substitution Solve Linear Systems by Adding or Subtracting Solve Linear Systems by Multiplying First Solve Special Types of Linear Systems Use Piecewise Functions Solve Systems of Linear Inequalities	• Graph and solve systems of linear equations. • Solve systems of linear equations by substitution. • Solve linear systems using elimination. • Solve linear systems by multiplying first. • Identify the number of solutions of a linear system. • Graph and write piecewise functions. • Solve systems of linear inequalities in two variables. A-REI Algebra – Reasoning with Equations and Inequalities A-CED Algebra – Create Equations that Describe Numbers of Relationships F-IF Functions – Interpreting Functions	6.1 6.2 6.3 6.4 6.5 6.5 Ext. 6.6
MAFS.912.A-CED.1.3 Calculator: Neutral	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. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods. 6.1, 6.2, 6.3, 6.4, 6.5, 6.6			
MAFS.912.A-REI.3.5 Calculator: Neutral	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. 6.2, 6.4, 6.5			
MAFS.912.A-REI.3.6 Calculator: Neutral	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. 6.1, 6.2, 6.3, 6.4, 6.5			
MAFS.912.A-REI.4.12 Calculator: Neutral	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 corresponding half-planes. 6.6			
MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 6.5 Ext.			

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The School District of Palm Beach County
Algebra 1 Honors
Unit H: Exponents and Exponential Functions
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**January 29 – February 16**		**Larson Algebra 1**
MAFS.912.A-CED.1.2 Calculator: Neutral	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 7.4, 7.5	Apply Exponent Properties Involving Products Apply Exponent Properties Involving Quotients Define and Use Zero and Negative Exponents Define and Use Fractional Exponents Write and Graph Exponential Growth Functions Write and Graph Exponential Decay Functions Comparing Linear and Exponential Functions Relate Geometric Sequesnces to Exponential Functions Define Sequences Recursively Translate Between Recursive and Explicit Rules for Sequences	• Use properties of exponents involving products. • Use properties of exponents involving quotients. • Use zero and negative exponents. • Use fractional exponents. • Write and graph exponential growth models. • Write and graph exponential decay functions. • Recognize, describe, and compare linear and exponential functions. • Identify, graph, and write geometric sequences. • Write and graph recursively-defined sequences. • Translate between recursive and explicit rules for arithmetic and geometric sequences.	**7.1** **7.2** **7.3** **7.3 Ext.** **7.4** **7.5** **7.5 Ext. A** **7.5 Ext. B** **Blender Supplemental Lesson** **7.5 pt. 2**
MAFS.912.A-SSE.2.3 Calculator: Neutral	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15t can be rewritten as $(1.15t/12)12t \approx 1.01212t$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%. 7.1, 7.2, 7.3			
MAFS.912.F-BF.2.3 Calculator: Neutral	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. 7.4, 7.5			
MAFS.912.F-IF.1.3 Calculator: Neutral	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by $f(0) = f(1) = 1$, $f(n+1) = f(n) + f(n-1)$ for $n \geq 1$. 7.5 Ext. A, 7.5 Ext. B			
MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 7.4, 7.5		N-RN Numbers – Real Numbers A-SSE Algebra – Seeing Structure in Expressions A-CED Algebra – Create Equations that Describe Numbers of Relationships F-IF Functions – Interpreting Functions F-BF Functions – Building Functions F-LE Functions – Linear, Quadratic, and Exponential Models	
MAFS.912.F-LE.1.1 Calculator: No	Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. 7.4, 7.5, 7.5 pt. 2			

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MAFS.912.F-LE.1.2 Calculator: Neutral	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). 7.4, 7.5, 7.5 Ext. A			
MAFS.912.F-LE.1.3 Calculator: No	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. 7.5 pt. 2			
MAFS.912.F.LE.2.5 Calculator: No	Interpret the parameters in a linear or exponential function in terms of a context. 7.4, 7.5			
MAFS.912.N-RN.1.1 Calculator: No	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 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5. 7.3, 7.3 Ext.			
MAFS.912.N-RN.1.2 Calculator: No	Rewrite expressions involving radicals and rational exponents using the properties of exponents. 7.3 Ext.			
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The School District of Palm Beach County
Algebra 1 Honors
Unit I: Polynomials and Factoring
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**February 19 – March 17**		**Larson Algebra 1**
MAFS.912.A-APR.1.1 Calculator: No	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. 8.1, 8.2, 8.3, 8.3 pt. 2	Add and Subtract Polynomials Multiply Polynomials Perform Operations with Functions Modeling with Combined Functions Find Special Products of Polynomials Investigate Polynomials and Closure Solve Polynomial Equations in Factored Form Factor $x^2 + bx + c$ Factor $ax^2 + bx + c$ Factor Special Products Factor Polynomials Completely	• Add and subtract polynomials. • Multiply polynomials. • Use operations to combine functions that model real-world situations. • Use arithmetic operations to combine functions. • Use special product patterns to multiply polynomials. • Determine whether a set is closed under an operation. • Solve polynomial equations. • Factor trinomials of the form $x^2 + bx + c$. • Factor trinomials of the form $ax^2 + bx + c$. • Factor special products. • Factor polynomials completely.	**8.1** **8.2** **8.2 pt 2** **8.2 pt 3** **8.3** **8.3 pt 2** **8.4** **8.5** **8.6** **8.7** **8.8** **Blender Supplemental Lesson** **8.2 pt. 2**
MAFS.912.A-APR.2.3 Calculator: Neutral	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial. 8.4, 8.6, 8.7, 8.8			
MAFS.912.A-CED.1.1 Calculator: Neutral	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. 8.4, 8.5, 8.6, 8.7, 8.8			
MAFS.912.A-REI.2.4 Calculator: Neutral	Solve quadratic equations in one variable. a. 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. b. 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 ± bi for real numbers a and b. 8.4, 8.5, 8.6, 8.7, 8.8			
MAFS.912.A-SSE.1.2 Calculator: Neutral	Use the structure of an expression to identify ways to rewrite it. For example, see x4- y4 as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 – y^2)(x^2 + y^2)$. 8.3, 8.7			
MAFS.912.A-SSE.2.3 Calculator: Neutral	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15t can be rewritten as (1.15t/12)12t ≈ 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%. 8.5, 8.6, 8.8			
MAFS.912.F-BF.1.1 Calculator: Neutral	Write a function that describes a relationship between two quantities. a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. 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. c. Compose functions. For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time. 8.2, 8.2 pt. 3			

A-SSE Algebra – Seeing Structure in Expressions
A-APR Algebra - Arithmetic with Polynomials & Rational Expressions
F-IF Functions – Interpreting Functions
F-BF Functions – Building Functions
A-CED Algebra – Create Equations that Describe Numbers of Relationships
A-REI Algebra – Reasoning with Equations and Inequalities

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MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 8.1			
MAFS.912.F-IF.3.8 Calculator: Neutral	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. 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. b. 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. 8.4, 8.5, 8.6			

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The School District of Palm Beach County
Algebra 1 Honors
Unit J: Quadratic Equations and Functions
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**March 28 – April 13**		**Larson Algebra 1**
MAFS.912.F-BF.2.3 Calculator: Neutral	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. 9.1, 9.2 Ext., 9.5 Ext.	Graph $y = ax^2 + c$ Graph $y = ax^2 + bx + c$ Graph Quadratic Functions in Intercept Form Solve Quadratic Equations by Graphing Use Squaqre Roots to Solve Quadratic Equations Solve Quadratic Equations by Completing the Square Graph Quadratic Functions in Vertex Form Derive the Quadratic Formula Solve Quadratic Equations by the Quadratic Formula Usng the Quadratic Formula Solve Systems with Quadratic Equations Compare Linear, Exponential, and Quadratic Models Model Relationships	• Graph simple quadratic functions. • Graph general quadratic functions. • Graph quadratic funcgtions in intercept form. • Solve quadratic equations by graphing. • Solve a quadratic equation by finding square roots. • Solve quadratic equations by completing the square. • Graph quadratic functions in vertex form. • Derive the quadratic formula from $ax^2 + bx + c = 0$ • Solve quadratic equations using the quadratic formula. • Solve systems that include a quadratic equation. • Compare linear, exponential, and quadratic models. • Compare represention of linear, exponential, and quadratic functions.	9.1 9.2 9.2 Ext. 9.3 9.4 9.5 9.5 Ext. 9.6 9.7 9.8 9.9 **Blender Supplemental Lesson** 9.5 pt. 2 9.6 pt. 2 9.8 Exp.
MAFS.912.A-CED.1.1 Calculator: Neutral	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational, absolute, and exponential functions. 9.4, 9.5, 9.6 pt. 2			
MAFS.912.A-CED.1.2 Calculator: Neutral	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. 9.1, 9.2, 9.3, 9.4, 9.8, 9.8 Exp.			
MAFS.912.A-CED.1.3 Calculator: Neutral	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. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods. 9.1, 9.2, 9.3			
MAFS.912.A-REI.2.4 Calculator: Neutral	Solve quadratic equations in one variable. a. 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. b. 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 ± bi for real numbers a and b. 9.4, 9.5, 9.5 Ext. 9.6, 9.6 pt. 2			
MAFS.912.A-REI.4.11 Calculator: Neutral	Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. 9.3, 9.4, 9.7			
MAFS.912.F-IF.2.4 Calculator: No	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. 9.1, 9.3, 9.8, 9.8 Exp, 9.9		A-CED Algebra – Create Equations that Describe Numbers of Relationships A-REI Algebra – Reasoning with Equations and Inequalities F-IF Functions – Interpreting Functions F-BF Functions – Building Functions F-LE Functions – Linear, Quadratic, and Exponential Models S-ID Statistics – Interpreting Data	
MAFS.912.F-IF.2.5 Calculator: Neutral	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. 9.1			

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MAFS.912.F-IF.3.7 Calculator: Neutral	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph linear and quadratic functions and show intercepts, maxima, and minima. b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions. c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior. d. Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior. e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude, and using phase shift. 9.2, 9.2 Ext., 9.3, 9.5 Ext., 9.1, 9.2, 9.8
MAFS.912.F-IF.3.8 Calculator: Neutral	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. a. 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. b. 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. 9.5 Ext.
MAFS.912.F-IF.3.9 Calculator: Neutral	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. 9.9
MAFS.912.F-LE.1.1 Calculator: Neutral	Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. 9.8, 9.8 Exp, 9.9
MAFS.912.F-LE.1.3 Calculator: Neutral	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. 9.9
MAFS.912.F-LE.2.5 Calculator: Neutral	Interpret the parameters in a linear or exponential function in terms of a context. 9.8, 9.8 Exp
MAFS.912.S-ID.2.6 Calculator: Neutral	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association. 9.8, 9.8 Exp

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MAFS.912.A-SSE.2.3 Calculator: Neutral	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15t can be rewritten as (1.15t/12)12t ≈ 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%. 9.5			

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The School District of Palm Beach County
ALGEBRA 1 HONORS
Post-Assessment Content
2015 - 2016

Standards		Topic & Suggested Pacing	Student Target	Core
Mathematics Florida Standards		**May 16 – May 26**		**Larson Algebra 1** **8.2 pt. 4** **Blender Supplemental Lesson** **2.5** **2.6** **3.6** **5.2**
MAFS.912.A-APR.2.2 Calculator: Neutral	Know and apply the Remainder Theorem: For a polynomial p(x) and a number a, the remainder on division by x – a is p(a), so p(a) = 0 if and only if (x – a) is a factor of p(x). Algebra 2: 2.5, 2.6	Use Inverse Functions Apply the Remainder & Factor Theorem Find Rational Zero Solve Radical Equations Rewrite Rational Expressions Solve Rational Equations Analyze Geometric Sequences & Series Find Sums of Infinite Geometric Series. Use Normal Distributions	• Find and apply inverse functions. • Use theorems to factor polynomials. • Find all real zeros of polynomial functions. • Solve radical equations. • Graph rational functions. • Solve rational equations. • Study geometric sequences and series. • Find the sums of infinite geometric series. • Study normal distributions.	
MAFS.912.A-APR.4.6 Calculator: Neutral	Rewrite simple rational expressions in different forms; write a(x)/b(x) in the form q(x) + r(x)/b(x), where a(x), b(x), q(x), and r(x) are polynomials with the degree of r(x) less than the degree of b(x), using inspection, long division, or, for the more complicated examples, a computer algebra system. Algebra 2: 5.2 Ext			
MAFS.912.A-REI.1.2 Calculator: Neutral	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. Algebra 2: 3.6, 5.6			
MAFS.912.A-SSE.2.4 Calculator: Neutral	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments. Algebra 2: 7.3, 7.4			
MAFS.912.F-BF.2.4 Calculator: Neutral	Find inverse functions. a. 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, $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$. b. Verify by composition that one function is the inverse of another. c. Read values of an inverse function from a graph or a table, given that the function has an inverse. 8.2 PT. 4		A-APR Algebra - Arithmetic with Polynomials & Rational Expressions A-CED Algebra – Create Equations that Describe Numbers or Relationships A-REI Algebra – Reasoning with Equations and Inequalities A-SSE Algebra – Seeing Structure in Expressions F-BF Functions – Building Functions F-IF Functions – Interpreting Functions S-ID Statistics – Interpreting Data	
MAFS.912.S-ID.1.4 Calculator: Neutral	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. Algebra 2: 6.3			

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