Algebra 1A Curriculum 2013-14

	Unit Name	Content	Skills	Standards: Performance Indicators
September	Relationships between Quantities and Reasoning with Equations and Their Graphs	Introduction to Functions Studied this Year – Graphing Stories Pre-assessment		N-Q.1, N-Q.2, N-Q.3, A-CED.2
			Solve multi-step equations Recognize linear patterns (rational)(rational) = rational and give example (rational + rational = rational and give example Irrational + irrational = irrational and give example (irrational)(irrational) = sometimes rational sometimes irrational and give examples	
		Graphs of Piecewise Linear Functions Graphs of Quadratic Functions Graphs of Exponential Functions	Make stories from graphs Make graphs from stories Given a table plot points Given a graph name the type of function Given a table name the type of function Given a situation name the type of function Be able to determine whether the points on a graph should be connected when graphed	
		Analyzing Functions	Given a graph be able to determine high and low points and what they represent Given a graph determine why there may be spikes Given a graph determine the rate of change	
		Two Graphing Stories	Given a graph recognize the intersection point and what the coordinates mean in the context of the situation	
October		The Structure of Expressions Basic Properties of Equalities	Recognize and Use the Addition Property of Equality Recognize and Use the Subtraction Property of	

			Equality **Recognize and Use the Multiplication Property of Equality** **Recognize and Use the Division Property of Equality**	
		Algebraic Expressions – The Distributive Property	**Recognize and Use the Distributive Property of Multiplication over Addition/Subtraction**	
		Algebraic Expressions – The Commutative and Associative Properties	**Recognize and Use the Commutative and Associative Properties of Addition and Multiplication**	
		Polynomials	**Recognize polynomials** **Write polynomials in standard form** **Simplify polynomials by combining like-terms** **Be able to add and subtract polynomials and write sum/difference in simplified standard form** **Multiply polynomials using the distributive property**	
	Mid-Module Assessment			
November		**Solving Equations and Inequalities**		**A-CES.3, A-CED.4, A-REI.1, AREI.3, A-REI.5, A-REI.6, AREI.10, A-REI.12**
		True and False Equations	**True equations have an infinite number of solutions** **False equations have no solution**	
		Solution Sets for Equations	**Linear equations have one solution, no solutions, or many solutions** **Quadratics have one solution, two solutions, or no solutions** **Inequalities have multiple solutions or no solution**	
		Solving Equations	**Solve linear equations** **Solve absolute value equations** **Solve quadratic** **Solve simple cubic equations**	
		Some Potential Dangers when	**Are there multiple solutions** **Are there extraneous solutions**	

		Solving Equations	**Was there division by zero** **Was there division by a variable**	
		Solving Inequalities	**Solve linear inequalities** **Solve compound inequalities** **Recognize quadratic inequalities and their types of solutions**	
		Solution Sets of two or More Equations(or Inequalities)	**Solving word problems with two or more equations or inequalities** **Graphing problems with two or more equations or inequalities**	
		Solving and Graphing Compound Inequalities	**Solve inequalities with or** **Solve inequalities with and** **Graph inequalities with or** **Graph inequalities with and**	
		Equations involving Factored Expressions	**Set each factor equal to zero and solve** **Check solutions**	
		Equations Involving a Variable Expression in the Denominator	**Denominator cannot be zero** **Find value(s) that make denominator zero**	
		Rearranging Formulas	**Solve literal equations** **Rewrite formulas to solve for the needed value**	
December		**Solution Sets to Equations and Inequalities with Two Variables**	**Determine whether a point is a solution to an equation or inequality** **Compare linear, quadratic, and exponential graphs with their corresponding tables** **Be able to graph solution points and non-solution points on an equality graph** **Graph inequalities**	**A-CES.3, A-CED.4, A-REI.1, AREI.3, A-REI.5, A-REI.6, AREI.10, A-REI.12**
		Solution Sets to Simultaneous Equations	**Graph simultaneous linear equations** **Find the solution to simultaneous equations graphically** **Graphically represent no solution** **Graph two of more linear inequalities and the solution**	
		Applications to	**Write constraints**	

		Systems of Equations and Inequalities **Create Equations to Solve Problems** **Assessment**	**Linear Programming Problems** **What does the shaded area of a linear inequality represent** **Solving problems with rates and algebra**	**N-Q.1**, **A-SSE.1**, **A-CED.1**, **A-CED.2**, **A-REI.3**
January	**Linear and Exponential Functions**	**Linear and Exponential Sequences**	**Integer Sequences** **Recursive Formulas for Sequences** **Arithmetic and Geometric Sequences** **The Power of Exponential Growth** **Exponential Growth** **Exponential Decay**	**F-IF.A.1, F-IF.A.2, F-IF.A.3, F-IF.B.6, F-BF.A.1a, F-LE.A.1, F-LE.A.2, F-LE.A.3**
		Functions and Their Graphs **Assessment**	**Represent, name, and evaluate, and evaluate functions** **Graph a function** **Interpret the graph of a function** **Compare linear and exponential models – Compare growth rates**	**F-IF.A.1, F-IF.A.2, F-BF.B.4, F-BF.B.5, F-BF.C.7a**
		Transformations of Functions **Using Functions and Graphs to Solve Problems** **Assessment**	**Piecewise Functions** **Use Graphs to solve equations** **Compare linear and exponential models** **Modeling population** **Piecewise and functions in context**	**A-REI.D.11, F-IF.C.7a, F-BF.B.3** **A-CED.A.1, A-SSE.B.3c, F-IF.B.4, F-IF.B.6, F-IF.C.9, F-BF.A.1a, F-LE.A.2, F-LE.B.5**
February	**Polynomial and Quadratic Expressions, Equations, and Functions**	**Quadratic Expressions, Equations, Functions, and Their Connection to Rectangles**	**Multiply and factor polynomial expressions** **Zero Product Property** **Solve one-0variable Quadratic Equations** **Create and solve quadratic equations in one variable** **Graph quadratic equations in factored form** **Interpret quadratic functions from graphs and tables**	**A-SSE.A.1, A-SSE.A.2, A-SSE.B.3a, A-APR.A.1, A-REI.B.4b, A-REI.D.11, A-CED.A.1, A-CED.A.2, F-IF.B.4, F-IF.B.5, F-IF.B.6, F-IF.B.7a**
March		**Mid-Module Assessment**		

		Using Different Forms for Quadratic Functions	Complete the square Solve Quadratic equations by completing the square Quadratic formula Graph quadratic functions from the vertex form Graph quadratic functions from the standard form	N-RN.B.3, A-SSE.A.1, A-SSE.A.2, A-SSE.B.3b, A-REI.B.4, A-APR.B.3, A-CED.A.1, A-CED.A.2, F-IF.B.4, F-IF.B.6, F-IF.C.7a, F-IF.C.8a
April		**Function Transformations and Modeling** **Assessment**	Graph cubic, square root, and cube root functions Translating functions Transformations of the quadratic parent function Comparing quadratic, square root, cube root Modeling with quadratic functions	A.CED.A.2, F-IF.C.6, F-IF.C.7b, F-IF.C.8a, F-IF.C.9, F-BF.B.3
May	**Descriptive Statistics** **(If Time Allows)**	**Shapes and Centers of Distributions** **Describing Variability and Comparing Distributions** **Mid-Module Assessment** **Review**	Recognize distributions and their shapes Describing the Center of a Distribution Estimating Centers and Interpreting the Mean Summarizing deviations from the mean Measuring variability for symmetrical distributions Measuring variability for skewed distributions (IQR) Comparing Distributions	S-ID.1, S-ID.2, S-ID.3
June		**Final**		