Review Skills Unit 1			
Review Skills Unit 1			
Duration		2 weeks	**Assessed**
Priority Standard(s)			
	A2.NQ.A.3	Add, subtract, multiply and divide radical expressions.	
	A1.SSE.A.3	Choose and produce equivalent forms of a quadratic expression or equations to reveal and explain properties. a) Find the zeros of a quadratic function by rewriting it in factored form	
Supporting Standard(s)	A2.NQ.A.2	Create and recognize equivalent expressions involving radical and exponential forms of expressions.	
	A1.APR.A	Add, subtract and multiply polynomials, and understand that polynomials follow the same general rules of arithmetic and are closed under these operations.	

Unit 2			
Unit 2: Operations with Rational Functions			
Duration		3 weeks	**Assessed**
Priority Standard(s)	A2.SSE.A.1	Develop the definition of logarithms based on properties of exponents	
	A2.APR.A.4	Add, subtract, multiply and divide rational expressions	
	A.2.REI.A.1	Solve rational equations where numerators and denominators are polynomials and where extraneous solutions may result.	
Supporting Standard(s)	A2.APR.A.3	Find the least common multiple of two or more polynomials	

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	Unit 3: Equations and Inequalities with real solutions	
Duration	**2.5 weeks**	**Assessed**
Priority Standard(s)	A2.REI.A.2	Solve rational equations where numerators and denominators are polynomials and where extraneous solutions may result.	
	A1.REI.A.2	Solve problems involving quadratic equations. a) Use the method of completing the square to create an equivalent quadratic equation. b) Derive the quadratic formula. c) Analyze different methods of solving quadratic equations	
Supporting Standard(s)			
	A2.REI.A.1	Create and solve equations and inequalities, including those that involve absolute value.	
	A2.NQ.A.4	Solve equations involving rational exponents and/or radicals and identify situations where extraneous solutions may result.	

Unit 4			
Functional Analysis Part I			
Duration		3 weeks	**Assessed**
Priority Standard(s)	A2.BF.A.3	Describe the effects of transformations algebraically and graphically, creating vertical and horizontal translations, vertical and horizontal reflections, and dilations for linear, quadratic, cubic, square and cube root, and absolute value functions.	
	A2.IF.A.2	Compare the graphs of two functions (e.g. over what interval(s) is f(x) > g(x), f(x)=g(x), f(x)<g(x), or f(x)<0)	
		Graph, evaluate and find the equation of piecewise functions	
Supporting Standard(s)	A1.IF.A.2	Use function notation to evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of context.	
		Evaluate functions in various forms of notation (f(2), f(2x), f(x+h) etc)	
		Solve equations for the independent variable given the dependent variable and vice versa. (quadratic (4 methods), square root, absolute value and linear)	
		Find the equation of a line given two points, a point and a slope or a description such as parallel or perpendicular to a given line	

Unit 5			
Functional Analysis Part II			
Duration		2 weeks	**Assessed**
Priority Standard(s)	A2.BF.A.1	Create new functions by applying the four arithmetic operations and composition of functions (modifying the domain and range as necessary).	
	A2.APR.A.5	Graph piecewise-defined functions and identify/classify types of discontinuities as removable (point) or non-removable (jump or infinite)	
		Determine the domain of a function analytically (domain restrictions).	
Supporting Standard(s)		Determine domain and range of a function graphically.	

Unit 6			
Analysis of Polynomial Functions			
Duration		2.5 weeks	**Assessed**
Priority Standard(s)	A2.REI.A.1	Solve polynomial inequalities using sign analysis.	
	A2.IF.A.1	interpreting graphs of polynomials - intervals of concavity, points of inflection, relative and absolute extrema	
	A2.APR.A.2	Use synthetic division to find the roots of a polynomial function	
		Factor polynomials.	
Supporting Standard(s)	A1.SSE.A.2 A2.APR.A.1	Analyze the structure of polynomials to create equivalent expressions or equations.	
	A2.APR.A.4	Identify zeros of polynomials when suitable factorizations are available and use the zeros to sketch the function defined by the polynomial	

Unit 7			
Analysis of Rational Functions			
Duration		**3-3.5 weeks**	**Assessed**
Priority Standard(s)	A2.IF.A.1	Identify vertical asymptotes, horizontal asymptotes, and removable discontinuities of a rational function.	
	A2.APR.A.1	Graph rational functions including horizontal and vertical asymptotes, x and y intercepts, and removable discontinuities	
Supporting Standard(s)		Identify domain restrictions of a rational function	

Unit 8			
Intro to Trig: Right Triangle and Unit Circle Trigonometry			
Duration		2 weeks	**Assessed**
Priority Standard(s)		Understand and apply the three basic trigonometric ratios to solve triangles and application problems.	
		Learn the terminology associated with circular trigonometry including circular angle, co-terminal angle, reference angle and radian angle measure.	
		Finalize the unit circle and redefine and apply the six basic circular trigonometric ratios to find values of angles, or co-terminal with angles, on the unit circle.	
Supporting Standard(s)	G.SRT.C.7	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.	

Unit 9			
Graphing Trigonometric Functions			
Duration		3 weeks	**Assessed**
Priority Standard(s)		Graph transformations of sine, cosine, tangent, secant, cosecant, and inverse trig functions.	
		Use parameter changes to amplitude, period, midline, and phase shift to model real-world contexts. Use the form f(t) = A sin(B(t + h)) + k and explain how to determine each of the parameters A, B, h, and k.	
Supporting Standard(s)	G.SRT.C.7	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.	
	A2.BF.A.3	Describe the effects of transformations algebraically and graphically, creating vertical and horizontal translations, vertical and horizontal reflections, and dilations for linear, quadratic, cubic, square and cube root, and absolute value functions.	
		Determine which quadrant an angle lies in given clues.	

Unit 10			
Trigonometric Identities and Equations			
Duration		3 weeks	**Assessed**
Priority Standard(s)		Use reciprocal, quotient, negative, and pythagorean identities to verify a given equation was an identity.	
		Use sum and difference, double angle, and half angle identities to evaluate trig functions.	
		Solve trigonometric equations.	
Supporting Standard(s)		Apply unit circle values.	

Unit 11			
Analysis of Exponential and Logarithmic Functions			
Duration		**3 weeks**	**Assessed**
Priority Standard(s)	A2.SSE.A.1	Develop the definition of logarithms based on properties of exponents	
	A2.SSE.A.2	Use the inverse relationship between exponents and logaritms to solve exponential and logarithmic equations.	
	A2.SE.A.3	Use properties of logarithms to solve equations or find equivalent expressions	
Supporting Standard(s)	A2.NQ.A.2	Create and recognize equivalent expressions involving radical and exponential forms of expressions.	
	A2.BF.A.3	Describe the effects of transformations algebraically and graphically, creating vertical and horizontal translations, vertical and horizontal reflections and dilations (expansions/compressions) for linear, quadratic, cubic, square and cube root, absolute value, exponential, and logarithmic functions.	
	A2.SSE.A.4	Understand why logarithmic scales are used and use them to solve problems.	

Unit 12			
Parametric and Polar Equations			
Duration	2-4 weeks		**Assessed**
Priority Standard(s)		Given a parametric function, graph by plotting points; eliminate the parameter	
		Convert between parametric/polar and rectangular equations. (eliminate the parameter)	
		Solve parametric/polar equations.	
		Plot points using polar coordinates and convert from polar to rectangular coordinates.	
		Apply parametric/polar equations to real life situations modeling projectile motion.	
		Graph polar equations by plotting points and categorize polar graphs.	
Supporting Standard(s)		Solving various level equations for a given variable.	
		Know and use the 6 basic trig function values to simplify expressions.	

Unit 13			
Calculus Potpourri			
Duration	only if time allows		**Assessed**
Priority Standard(s)		Interpret limits graphically	
		Interpret limits analytically.	
Supporting Standard(s)		Accurately calculate the difference quotient.	