Trigonometry

Unit 1 Functions

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
18 Days	Mathematical functions are relationships that assign each member of one set (domain) to a unique member of another set (range), and the relationship is recognizable across representations.	How can students identify the domain and range for a relation, equation of a graph?	Functions	Students should be able to determine whether a relation is a function. Students should be able to use function notation. Students should be able to identify the domain and range of a relation or function. Students should be able to evaluate functions. Students should be able to evaluate difference quotients. Students should be able to use functions to model and solve real life problems.	Relations and Functions Suggested Resources: Trigonometry (Hosteteler/Larson) Section P-5 Pgs.55 - 68 Advanced Mathematical Concepts Section 1-1 (Pgs. 5-12) Glencoe-Precalulus /2012-Section 1-1 (PC Pgs 4 - 12) Algebra and Trigonometry with Analytic Geometry (Swokowski) Section 3-4 (Pg 175-188) 2 days	relation, domain, range, function, vertical line test, function notation,	Domain: F-IF Interpreting Functions. Standard: Analyze Functions using different representations 7. 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 equations and show intercepts, maxima and minima. c. Graph polynomial functions, identify zeros when suitable factorizations are available, and show end behavior.

Mathematical functions	What are the important	Functions	Students should be	Analyze Graphs of	relation,	Domain: F-IF
are relationships that	features of a graph of a		able to use the	Functions and		Interpreting Functions.
assign each member of	polynomial and why are		vertical line test for	Relations-	domain,	
one set (domain) to a	they important?		functions.			Standard: Analyze
unique member of				Suggested	range,	Functions using
another set (range), and			Students should be	Resources:		different
the relationship is			able to use graphs		function,	representations
recognizable across			to estimate	Trigonometry		
representations.			function values and	(Hosteteler/Larson)	vertical line test,	
			find domains,	Section P-6		7. Graph functions
			ranges, y-	Pgs.69 - 80	function notation,	expressed symbolically
			intercepts, and			and show key features
			zeros of functions.	Glencoe- Pre-	composition,	of the graph, by hand
				calculus /2010	' '	in simple cases and
			Students should be	Section 1-2	composite,	using technology for
			able to explore	(Pgs 13 – 23)		more complicated
			symmetries of	Section 1-4	linear equation,	cases.
			graphs, and identify	(Pgs 34 – 43)	,	
			even and odd	, 6	x-intercept,	a. Graph linear and
			functions.	Algebra and	,	quadratic equations
				Trigonometry with	y-intercept,	and show intercepts,
			Students should be	Analytic Geometry	,	maxima and minima.
			able to determine	(Swokowski Pg 141-	standard form,	
			intervals on which	156, 175-193, 262-		c. Graph polynomial
			functions are	272)	slope-intercept	functions, identify
			increasing,		form,	zeros when suitable
			decreasing, and	2 Days	,	factorizations are
			determine maxima	2 2 4 7 5	zeros of the	available, and show
			and		function,	end behavior.
			minima of			
			functions.		constant function,	
			Students should be		family of graphs,	
			able to determine		mathematical	
			the average rate of		model,	
			change of a		inouei,	
			function.		point-slope form	
Families of functions	How can students	Functions	Students should be	Parent Function and	Linear function	Domain: F-BF
exhibit properties and	manipulate functions	1 diletions	able to identify and	Transformation-	Linear function	Building Functions
behaviors that can be	through transformations,		graph linear and	Transformation ²	Point-slope form	Dunaning Functions
recognized across	operations, and		squaring functions.	Suggested	1 omt-slope form	Standard: Build a new
representations.	compositions?		Squaring functions.	Resources:	Constant function	function from and
Functions can be	compositions:		Students should be	nesources.	Constant function	existing function
transformed, combined,			able to identify and	Trigonometry	Squaring Function	CAISTING TURKLION
and composed to create			graph cubic, square	(Hosteteler/Larson)	Squaring runction	3. Identify the effect
new functions in			graphi cubic, square	Section P-7	Cubic function	on the graph of
HEW IUHCHOHS III		l	1	Jection F-7	Cubic fullction	on the graph of

mathematical and real world situations. Families of functions	How can students	Factors	root, and reciprocal functions. Students should be able to identify and graph step and piece-wise functions. Students should be able to recognize graph of parent functions. Student should be	Pgs.81-88 Glencoe- Precalculus/2010- Section 1- 5 (PC Pgs 45 – 55) Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 192 – 208) 8 Days Parent Function and	Square root function Reciprocal function Step functions Piece-wise function Parent functions Vertical shift	replacing $f(x)$ by $f(x) + k$, k $f(x)$, $f(kx)$, and $f(x + k)$ for specific values 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. Domain: F-BF
exhibit properties and behaviors that can be recognized across representations. Functions can be transformed, combined, and composed to create new functions in mathematical and real world situations.	manipulate functions through transformations, operations, and compositions?		able to use vertical and horizontal shifts to sketch graphs of functions. Students should be able to use reflections to sketch graphs. Students should be able to use nonrigid transformations to sketch graphs of functions.	Transformation- Suggested Resources: Trigonometry (Hosteteler/Larson) Section P-8 Pgs.89-98 Glencoe- Precalculus/2010- Section 1- 5 (PC Pgs 45 - 55) Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 192 - 208) 4 Days	Horizontal shift Reflection Rigid transformations Nonrigid transformations Vertical stretch Vertical shrink Horizontal shrink	Standard: Build a new function from and existing function 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 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.

Review Unit 1 Functions 1 Day

Test Unit 1 Functions 1 Day

Unit 2 Conic Sections

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
15 days	Relations and functions are mathematical relationships that can be represented and analyzed using words, tables, graphs, and equations.	What is a conic section and how does it relate to other areas of mathematics? Why is it important to write equations of various shapes?	Conic Sections	Students should be able to analyze and graph equations of parabolas. Students should be able to write equations of parabolas.	Parabolas – Suggested Resources: Advanced Mathematical Concepts Section 10-5 (Pgs.653-661) Sullivan- Precalculus Section 10.2 Pgs. 656-664 Glencoe Precalculus -2011 Section 7-1 (Pgs 422 – 431) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 806 - 816) 3 Days	Conic sections Degenerate conic Locus Parabola Focus Directrix Axis of symmetry Vertex Latus rectum	Domain: G-GPE Expressing Geometric Properties with Equations Standard: Translate between a geometric description and the equation for a conic section 2. Derive the equation of a parabola given a focus and directrix
	Relations and functions are mathematical relationships that can be represented and analyzed using words, tables, graphs, and equations.	What is a conic section and how does it relate to other areas of mathematics?	Conic Sections	Students should be able to analyze and graph equations of circles. SWBA to write equations of circles.	Circles Suggested Resources: Advanced Mathematical Concepts Section 10-2 (Pgs.623-630)	Conic Section Circle Concentric Circle Degenerate Conic Center Radius	Domain: G-GPE Expressing Geometric Properties with Equations Standard: Translate between a geometric description and the equation for a conic section

				Sullivan- Precalculus Section 1-4 Pgs. 35-41 Glencoe Precalculus -2011 Section 7-2 (Pgs 432 – 441)		1. Derive the equation of a circle of a given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an
				Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 816 - 830)		equation. 3. Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.
Relations and functions are mathematical relationships that can be represented and analyzed using words, tables, graphs, and equations.	What is a conic section and how does it relate to other areas of mathematics?	Conic Sections	Students should be able to analyze and graph equations of ellipses. SWBA to write equations of ellipses.	Ellipses Suggested Resources: Advanced Mathematical Concepts Section 10-3 (Pgs.631-641) Sullivan- Precalculus Section 10-3 Pgs. 634-644 Glencoe Precalculus - 2011 Section 7-2 (Pgs 432 – 441) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 816 - 830) 3 Days	Ellipse Foci Major axis Center Minor axis Vertices Co-vertices Eccentricity	Domain: G-GPE Expressing Geometric Properties with Equations Standard: Translate between a geometric description and the equation for a conic section 1. Derive the equation of a circle of a given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. 3. Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

are mathe relationsh represent using wor	ematical and provided in the case of the c	What is a conic section and how does it relate to other areas of mathematics? Why is it important to write equations of various shapes?	Conic Sections	Students should be able to analyze and graph equations of hyperbolas. Students should be able to use equations to identify the types of conic sections.	Hyperbolas- Suggested Resources: Advanced Mathematical Concepts Section 10-4 (Pgs.642-652) Sullivan- Precalculus Section 10.4 Pgs. 644-656 Glencoe Precalculus - 2011 Section 7-3 (PC Pgs 442 – 442) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 830 - 842) 3 Days	Hyperbola Transverse axis Conjugate axis	Domain: G-GPE Expressing Geometric Properties with Equations Standard: Translate between a geometric description and the equation for a conic section 3. Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.
are math relationsl represent analyzed Using wo	ematical a hips that can be ted and rds, tables, and equations.	What is a conic section and how does it relate to other areas of mathematics? Why is it important to write equations of various shapes?	Conic Sections and Parametric Equations	Objectives: SWBA to find rotation of axes to write equations of rotates conics sections. SWBA to use equations to identify the types of conic sections.	Rotations of Conic Sections- Suggested Resources: Glencoe- Pre-calculus/2010- Section 7-4 (PC Pgs 454 – 461) Day 118,119,120	identity, trigonometric identity, reciprocal identities, quotient identity, Pythagorean identities, symmetry identities, opposite-angle identities, sum identities for sine,	Domain: G-GPE Expressing Geometric Properties with Equations Standard: Translate between a geometric description and the equation for a conic section 1. Derive the equation of a circle of a given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.

	difference identities for sine and cosine, reduction identities, and the double-angle identities, didi	2. Derive the equation of a parabola given a focus and directrix 3. Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.
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Review Unit 2 Conic Sections 1 Day

Test Unit 2 Conic Sections 1 Day

Unit 3 Trigonometry and Angles

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
20 days	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures	In what ways might radians be more useful than degrees in various situations (or vice versa)?	Trigonometric Functions	Students should be able to convert decimal degree measures to degrees, minutes	Radian and Degree Measure Suggested Resources:	Vertex Initial side Terminal side	Domain: F-TF Trigonometric Functions Standard: Extend the
	in many equivalent forms.			and seconds. Students should be able to convert degrees, minutes	Trigonometry (Hosteteler/Larson) Section 1-1 Pgs.130-141	Standard Position Degree	domain of trigonometric functions using the unit circle
				and seconds to decimal degrees. Students should be able to find the number of degrees	Advanced Mathematical Concepts Section 5-1 (Pgs.277283)	Minute Seconds Radian	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.

			in a given number	-	Quadrantal Angle	l '
			_	Claraca	Quadrantal Angle	2. Fundain haustha
			of rotations.	Glencoe-		2. Explain how the
				Pre-calculus(2012)	Coterminal Angle	unit circle in the
			Students should be	Section 4-2		coordinate plane
			able to identify	(Pgs 231 – 241)		enables the extension
			angles that are			of the trigonometric
			coterminal with a	Algebra and		functions to all real
			given angle.	Trigonometry with		numbers, interpreted
				Analytic Geometry		as radian measure of
				(Swokowski)		angles traversed
			Students should be	Pg 392 - 403)		counterclockwise
			able to use angle			around the unit circle.
			measures to solve	4 Days		
			real-world	- Duys		
			problems.			
Numbers, measures,	How is the unit circle a	Trigonometric	Students should be	Trigonometric	Unit circle	Domain: F-TF
'	useful device in the solving	Functions	able to identify a	Functions : The Unit	Onit circle	Trigonometric
expressions, equations,		Functions	•		61	_
and inequalities can	of trigonometric		unit circle and	Circle-	Sine	Functions
represent mathematical	problems?		describe its			
situations and structures			relationship to real	Suggested	Cosine	Standard: Extend the
in many equivalent forms			numbers.	Resources:		domain of
					Tangent	trigonometric
			Students should be	Trigonometry		functions using the unit
			able to evaluate	(Hosteteler/Larson)	Cosecant	circle
			trigonometric	Section 1-2		
			functions using the	Pgs.142-148	Secant	Explain how the
			unit circle.			unit circle in the
				Advanced	Cotangent	coordinate plane
			Students should be	Mathematical		enables the extension
			able to use the	Concepts	Circular functions	of the trigonometric
			domain and period	Section 5-3		functions to all real
			to evaluate sine	(Pgs.291-298)	Periodic function	numbers, interpreted
			and cosine	,		as radian measure of
			functions.	Glencoe	Period	angles traversed
				Pre-calculus(2012)		counterclockwise
			Students should be	Section 4-3	Trigonometric	around the unit circle.
			able to use a	(Pgs 242 – 253)	functions	a. Jana the anni chicle.
			calculator tor to	(183272 233)	Tarictions	4. Use the unit circle to
			evaluate	Algebra and	Quadrantal angle	explain symmetry (odd
			trigonometric	Trigonometry with	Quadrantal angle	and even) and
			functions.	Analytic Geometry	Reference angle	periodicity of
			Tuticuotis.		Reference angle	1 7
				(Swokowski)		trigonometric
				Pg 421 - 439)		functions
		1		5 days		

	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms.	In what ways might radians be more useful than degrees in various situations (or vice versa)?	Trigonometric Functions	Students should be able to determine Linear Displacement. Students should be able to determine Linear velocity. Students should be able to find Angular Displacement. Students should be able to find Angular velocity.	Angular Motion Applications Suggested Resources: Trigonometry (Hosteteler/Larson) Section 1-1 Pgs.130-141 Advanced Mathematical Concepts Section 5-1 (Pgs.277283) Glencoe- Pre-calculus(2012) Section 4-2 (Pgs 231 – 241) Algebra and Trigonometry with Analytic Geometry	Linear Displacement Linear velocity Angular Displacement Angular velocity	Domain: F-TF Trigonometric Functions Standard: Extend the domain of trigonometric functions using the unit circle 1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. 2. Explain how the unit circle in the coordinate plane enables the extension of the trigonometric functions to all real numbers, interpreted as radian measure of		
		Review U	nit 3 Trigonome	etry and Angles 1	Pg 392 - 403) 5 Days L Day		counterclockwise around the unit circle.		
Unit 4 Inverse Trigonometric Functions Estimated Lesson Plans									
Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	and Suggested Resources	Vocabulary	Standards/Eligible Content		

	Families of functions	How con students	Functions	Students should be	Function Operations	Arithmetic	Domain: F-BF
		How can students	Functions		Function Operations		
1E Dave	exhibit properties and	manipulate functions		able to perform	and Composition of	combinations	Building Functions
15 Days	behaviors that can be	through transformations,		operations on	Function-		
	recognized across	operations, and		functions.		Composition of	Standard: Build a
	representations.	compositions?			Suggested	Functions	function that models a
	Functions can be				Resources:		relationship between
	transformed, combined,			Students should be		Decompose a	quantities
	and composed to create			able to find	Trigonometry	Function	
	new functions in			compositions of	(Hosteteler/Larson)		1. Write a function
	mathematical and real			functions	Section P-9		that describes a
	world situations.				Pgs.99-107		relationship between
				Students should be			two quantities.
				able to use	Glencoe- Precalulus		
				combinations and	/2010- Section 1- 6		b. Combine standard
				compositions of	(PC Pgs 57 – 64)		function types using
				functions to model	(1 C 1 g3 37 04)		arithmetic operations.
				real-world			!
					Alexander en el		For example, build a
				problems.	Algebra and		function that models
					Trigonometry with		the temperature of a
					Analytic Geometry		cooling body by adding
					(Swokowski Pg 224 -		a constant function to
					234)		a decaying
							exponential, and relate
					6 Days		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
							the weather balloon as
							a function of time, the
							T(h(t)) is the
							temperature at the
							location of the weather
							balloon as a function
							of time.
							oj time.
	Families of functions	How can students	Functions	Students should be	Inverse Relations	Inverse Function	Domain: F-BF
	exhibit properties and	manipulate functions		able to use the	and Functions-		Building Functions
	behaviors that can be	through transformations,		graphs of functions		One-to-One	
	recognized across	operations, and		to determine if	Suggested	Functions	Standard: Build new
	representations.	compositions?		they	Resources:		functions from existing
	Functions can be	,		are inverse	***************************************	Horizontal Line	functions.
	transformed, combined,			functions.	Trigonometry	test	
L	a and of mea, combined,	L	l .		gonometry	1 2000	

and composed to create new functions in mathematical and real world situations.			Students should be able to find inverse functions algebraically and graphically. Students should be able to use the horizontal line test to determine if functions are one — to-one	(Hosteteler/Larson) Section P-10 Pgs.108-117 Glencoe- Precalulus - Section 1- 7 (PC Pgs 65 - 73) Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 235 - 245) 4 Days		 4. 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. 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.
Families of functions exhibit properties and behaviors that can be recognized across representations. Function can be transformed, combined, and compose to create new functions in mathematica and real world situations	solved?	Trigonometric Functions	Student should be able to evaluate and graph inverse trigonometric functions. Student should be able to evaluate and graph compositions of trigonometric functions.	Inverse Trigonometric Functions – Suggested Resources: Trigonometry (Hosteteler/Larson) Section P-10 Pgs.108-117 Glencoe-Pre- calculus/2010- Section 4-6 (PC Pgs 280 – 290) Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 541 – 557)- 2 Days	Inverse Si Function Inverse cosi function Inverse tange function	Standard: Model periodic phenomena

	Standard: Build a function that models a relationship between quantities.
	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 the weather balloon as a function of time, the T (h(t)) is the temperature at the location of the weather balloon as a function of time.

Review Unit 4 Inverse Trigonometric Functions 1 Day

Test Unit 4 Inverse Trigonometric Functions 1 Day

Unit 5 Graphing Trigonometric Functions

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
	Relations and functions	What are the various	Trigonometric	Students should be	Graphing Sine and	Sinusoid	Domain: F-TF
47 1	are mathematical	methods in which a trig	Functions	able to sketch	Cosine Functions		Trigonometric
17 days	relationships that can be	expression may be verified		graphs of basic sine		Amplitude	Functions
•	represented and analyzed	or that a trig equation may		and cosine	Suggested		
	using, words, tables,	be solved?		functions.	Resources:	Period	Standard: Model
	graphs, and equations.						periodic phenomena
				Students should be	Trigonometry	Frequency	with trigonometric
				able to graph	(Hosteteler/Larson)		functions.
				transformations of	Section 1-5	Phase shift	
				the sine and cosine	Pgs.169-179		5. Choose
				functions.		Vertical shift	trigonometric

			Students should be able to use sinusoidal functions to solve real-world problems.	Advanced Mathematical Concepts Section 6-3,6-4, 6-5 (Pgs.359-386) Glencoe- Precalculus 2011- Section 4-4 (Pgs 256 – 266) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 448 - 462) 5 days	Midline	functions to model periodic phenomena with specific amplitude, frequency, and midline.
			rigonometric Fun			
Relations and functions are mathematical relationships that can be represented and analyzed using, words, tables, graphs, and equations.	What are the various methods in which a trig expression may be verified or that a trig equation may be solved?	Trigonometric Functions	Students should be able to graph tangent and cotangent functions. Students should be able to sketch graphs of damped trigonometric functions. Students should be able to write equations of trigonometric functions.	Graphing Tangent and Cotangent Suggested Resources: Trigonometry (Hosteteler/Larson) Section 1-6 Pgs.180-190 Advanced Mathematical Concepts Section 6-7 (Pgs.395-403) Section 4-5	Damped trigonometric function Damping factor Damped oscillation Damped wave Damped harmonic motion	Domain: F-TF Trigonometric Functions Standard: Model periodic phenomena with trigonometric functions. 5. Choose trigonometric functions to model periodic phenomena with specific amplitude, frequency, and midline.

Relations and functions are mathematical relationships that can be represented and analyzed using, words, tables, graphs, and equations. What are the various methods in which a trig expression may be verified or that a trig equation may be solved? Trigonometric Functions Students should be able to graph Scaant and cosecant functions. Students should be able to sketch graphs of damped trigonometric functions. Students should be able to write equations of trigonometric functions. Students should be able to write equations of trigonometric functions. Students should be able to write equations of trigonometric functions. Section 1-6 Pgs.180-190 Damped wave S. Choose trigonometric functions. Section 6-7 (Pgs.395-403) Section 6-7 (Pgs.395-403) Algebra and Trigonometry with Analytic Geometry (Swokowsk) (Pg 463-471)					Algebra and Trigonometry with Analytic Geometry (Swokowsk) (Pg 463 - 471) 2 Days		to a domain on which it is always increasing or always decreasing allows it's inverse to be constructed.
2 Days	are mathematical relationships that can be represented and analyzed using, words, tables,	methods in which a trig expression may be verified or that a trig equation may	_	able to graph Secant and cosecant functions. Students should be able to sketch graphs of damped trigonometric functions. Students should be able to write equations of trigonometric	Cosecant. Suggested Resources: Trigonometry (Hosteteler/Larson) Section 1-6 Pgs.180-190 Advanced Mathematical Concepts Section 6-7 (Pgs.395-403) Section 4-5 Glencoe- Precalculus 2011 (PC Pgs 269 – 279) Algebra and Trigonometry with Analytic Geometry (Swokowsk) (Pg 463 - 471)	trigonometric function Damping factor Damped oscillation Damped wave Damped harmonic	Trigonometric Functions Standard: Model periodic phenomena with trigonometric functions. 5. Choose trigonometric functions to model periodic phenomena with specific amplitude, frequency, and midline. 6. Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows it's inverse to be

Review Unit 5 (Part 2) Graphing Trigonometric Functions 1 Day

Test Unit 5 (Part 2) Graphing Trigonometric Functions 1 Day

Unit 6 Trigonometric Identities

				Lesson Plans		
Big Ideas	Essential Question	Concepts	Competencies	and Suggested	Vocabulary	Standards/Eligible
				Resources		Content
Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms.	What are trigonometric identities and why are they useful?	Trigonometric Identities and Equations	Students should be able to use reciprocal identifies, quotient identities, Pythagorean Identities, symmetry identities and opposite angle identities. Students should be able to identify and use basic trigonometric identities to find trigonometric values. Students should be able to use, simplify and rewrite trigonometric identities.	Trigonometric Identities - Suggested Resources: Trigonometry (Hosteteler/Larson) Section 2-1 Pgs.222-229 Advanced Mathematical Concepts Section 7-1 (Pgs.421-430) Glencoe Precalculus - 2011 Chapter 5-Section 5- 1 (Pgs 312 - 319) Algebra and Trigonometry with Analytic Geometry	Identity Trigonometric identity Reciprocal identity Quotient identity Pythagorean Identity Symmetry Identity Opposite Angle Identity Cofunction Odd-even identity	Domain: F-TF Trigonometric Functions Standard: Prove and apply trigonometric identities. 8. Prove the Pythagorean Identity and use it to find sin(e), cos(e), or tan(e), and the quadrant of the angle
Families of functions exhibit properties and behaviors that can be recognized across representations Functions can be transformed, combined, and composed to create new functions	What are trigonometric identities and why are they useful?	Trigonometric Identities and Equations	Students should be able to use the basic identities to verify other trigonometric Identities.	(Swokowski) (Pg 494 - 500) 2 Days Verifying Trigonometric Identities Suggested Resources: Trigonometry	Verify an identity	Domain: F-TF Trigonometric Functions Standard: Prove and apply trigonometric identities.
	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. Families of functions exhibit properties and behaviors that can be recognized across representations Functions can be transformed, combined, and composed	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. Families of functions exhibit properties and behaviors that can be recognized across representations Functions can be transformed, combined, and composed What are trigonometric identities and why are they useful? What are trigonometric identities and why are they useful?	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. Families of functions exhibit properties and behaviors that can be recognized across representations Functions can be transformed, combined, and composed What are trigonometric identities and why are they useful? What are trigonometric identities and why are they useful? Trigonometric identities and Equations Trigonometric identities and Equations	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. What are trigonometric identities and why are they useful? Trigonometric lequations Equations Students should be able to use reciprocal identities, Pythagorean Identities, symmetry identities and opposite angle identities. Students should be able to identify and use basic trigonometric identities to find trigonometric values. Families of functions exhibit properties and behaviors that can be recognized across representations Functions can be transformed, combined, and composed	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. What are trigonometric identities and why are they useful? Trigonometric identities and situations and structures in many equivalent forms. Suggested Resources Students should be able to use reciprocal identifies, quotient identities, Pythagorean identities, Pythagorean identities, symmetry identities and opposite angle identities. Suggested Resources: Pythagorean identities, symmetry identities and opposite angle identities. Students should be able to identify and use basic trigonometric identities trigonometric identities and use basic trigonometric identities Students should be able to use, simplify and rewrite trigonometric identities. Students should be able to use, simplify and rewrite trigonometric identities. Algebra and Trigonometry (Swokowski) (Pg 494 - 500)	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms. What are trigonometric imany equivalent forms. Students should be able to identities, quotient identities, pythagorean identities, and opposite angle identities. Pgs.222-229 Pgs.222-229 Pgs.222-229 Pythagorean identity and use basic trigonometric identities (abile to identity and use basic infinition and rewrite trigonometric identities (abile to identity and use basic identities and why are they useful? Students should be abile to use the basic identities to verify other useful? Students should be abile to use the basic identities to verify other useful? Students should be abile to use the basic identities to verify other useful? Students should be abile to use the basic identities to verify other useful? Students should be abile to use the basic identities to verify other useful? Students should be abile to use the basic identities to ve

in mathematical and real world situations.			able to determine whether equations are identities. Students should be able to find numerical values of trigonometric functions.	Section 2-2 Pgs.230-236 Advanced Mathematical Concepts Section 7-1 (Pgs.431-436) Glencoe Precalculus - 2011 Section 5-2 (Pgs 320 – 326) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 494 - 500) 4 Days	8. Prove the Pythagorean Identity and use it to find sin(e), cos(e), or tan(e), and the quadrant of the angle.
There are some mathematical relationships that are always true and these relationships are used as the rules of arithmetic and algebra and are useful for writing equivalent forms of expressions and solving equations and inequalities.	What are the various methods in which a trig expression may be verified or that a trig equation may be solved?	Trigonometric Identities and Equations	Students should be able to solving trigonometric equations using algebraic techniques. SWBA to solve trigonometric equations using basic techniques.	Solving Trigonometric Equations Suggested Resources: Trigonometry (Hosteteler/Larson) Section 2-3 Pgs.237-247 Glencoe-Pre- calculus/2010- Section 5-3 (PC Pgs 327 – 333) Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 500 - 514) 5 Days	Domain: A-REI Reasoning with equations and Inequalities Standard: Understand solving equations as a process of reasoning and explain the reasoning. 1. Explain each step in solving simple equations 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.

					Domain: F-TF Trigonometric Functions Standard: Model periodic phenomena with trigonometric functions. 7. Use inverse functions to solve trigonometric equations that arise in modeling contexts: evaluate the solution using technology and interpret them in terms of the context
			nometric Identitie	<u> </u>	
There are some mathematical relationships that are always true and these relationships are used as the rules of arithmetic and algebra and are useful for writing equivalent forms of expressions and solving equations and inequalities.	What are trigonometric identities and why are they useful?	Trigonometric Identities and Equations	Students should be able to use the sum and difference identities to evaluate trigonometric functions. Students should be able to use the sum and difference identities to solve trigonometric equations.	Sum and Difference Identities – Suggested Resources: Trigonometry (Hosteteler/Larson) Section 2-4 Pgs.248-254 Advanced Mathematical Concepts Section 7-3 (Pgs.437-447) Glencoe Precalculus - 2011	Domain: F-TF Trigonometric Functions Standard: Prove and apply trigonometric identities 9. Prove the addition and subtraction formulas for sine, cosine and tangent and use them to solve problems. Domain: A-REI Reasoning with equations and Inequalities

			ī	Continue 5.4		
				Section 5-4 (Pgs 336 – 343)		Standard: Understand
				(PgS 550 - 545)		solving equations as a
				Algebra and		process of reasoning
				Trigonometry with		and explain the
				Analytic Geometry		reasoning.
				(Swokowski)		Teasoning.
				(Pg 515 - 525)		1. Explain each step in
				(1g 313 - 323)		solving a simple
				3 Days		equations as following
				Juys		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.
There are some	What are trigonometric	Trigonometric	Students should be	Double Angle and	Double-Angle	Domain: F-TF
mathematical	identities and why are they	Identities and	able to use multiple	Half Angle Identities	Formulas	Trigonometric
relationships that are	useful?	Equations	angle formulas to			Functions
always true and these			rewrite and	Suggested	Power-Reducing	
relationships are used			evaluate	Resources:	Formulas	Standard: Prove and
as the rules of arithmetic			trigonometric			apply trigonometric
and algebra and are useful			functions.	Trigonometry	Half-Angle	identities
for writing equivalent				(Hosteteler/Larson)	Formulas	
forms of expressions				Section 2-5		9. Prove the addition
and solving equations and			Students should be	Pgs.255-266	Product to Sum	and subtraction
inequalities.			able to use power		Formulas	formulas for sine,
			reducing formulas	Advanced		cosine and tangent
			to rewrite and	Mathematical		and use them to solve
			evaluate	Concepts		problems.
			trigonometric	Section 7-3		Damain, A DEL
			functions.	(Pgs.437-447)		Domain: A-REI
			Students should be	Glencoe Precalculus -		Reasoning with
			able to use half-	2011		equations and
			angle formulas to	Section 5-4		Inequalities
			rewrite and	(Pgs 336 – 343)		Standard: Understand
			evaluate	(1 g3 330 - 343)		solving equations as a
			trigonometric	Algebra and		process of reasoning
			functions.	Trigonometry with		and explain the
			Tarictions.	Analytic Geometry		reasoning.
			Students should be	(Swokowski)		. 533011116.
			able to use sum-to-	(Pg 515 - 525)		
			מטוב נט משב שמוווינטי	(1 8 JIJ - JZJ)		1

	product formulas to		1. Explain each step in
	rewrite and	3 Day	solving a simple
	evaluate		equations as following
	trigonometric		from the equality of
	functions.		numbers asserted at
			the previous step,
	Students should be		starting from the
	able to use		assumption that the
	trigonometric		original equation has a
	formulas to rewrite		solution. Construct a
	real-world models.		viable argument to
			justify a solution
			method.

Review Unit 6 (Part 2) Trigonometric Identities 1 Day

Test Unit 6 (Part 2) Trigonometric Identities 1 Day

Unit 7 Trigonometry and Right Triangles

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
14 Days	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms	Why should you know more than one way to solve a trigonometric problem?	Trigonometric Functions	Students should be able to find values of trigonometric functions for acute angles of right triangles. Students should be able to use the Fundamental trigonometric identities.	Right Triangle Trigonometry Suggested Resources: Trigonometry (Hosteteler/Larson) Section 1-3 Pgs.149-159 Advanced Mathematical Concepts	Hypotenuse Leg Side adjacent Side opposite Trigonometric ratios Sine Cosine	Domain: G-SRT Similarity, Right Triangles, and Trigonometry Standard: Define trigonometric ratios and solve problems involving right triangles 6. Understand that by similarity, side ratios in right triangles are

Students should be able to use a calculator tor to Section 5-2 properties triangles, I the definit	
calculator tor to the definit	
	•
l l evaluate Glencoe- Cosecant trigonome	tric ratios
trigonometric Precalculus(2012) for acute a	
functions. Section 4-1 Secant	iigies.
(Pgs 220 – 230) Domain: F-	-TF
Cotangent Trigonome	
Algebra and Functions	
Trigonometry with	
	Extend the
(Swokowski domain of	
(Pg 392 - 420) trigonome	tric
functions	
4 days unit circle.	
3. Use spe	cial triangles
to determi	ne
geometric	ally the
values of s	ine, cosine,
tangent fo	r π-x, π + x,
2 π-x, 2 π ·	+ x in terms
of their va	•
where x is	any real
number.	
Numbers, measures, Why should you know Trigonometric Students should be Applications and Hypotenuse Domain: O	
expressions, equations, more than one way to Functions able to use Models Similarity,	
and inequalities can solve a trigonometric trigonometric Leg Triangles,	
represent mathematical problem? functions to model Suggested Trigonome	etry
situations and structures and solve real-life Resources: Side adjacent	- 6
in many equivalent forms problems. Standard:	
Trigonometry Side opposite trigonome	
Students should be (Hosteteler/Larson) and solve	•
able to solve real Section 1-3 Trigonometric involving r	ignt
life problems Pgs.149-159 ratios triangles	
involving right Section 1-8 triangles. Pgs. 201-211 Sine 6. Unders	tand that hu
	tand that by side ratios in
Students should be Advanced Cosine right triang	
able to solve real Mathematical properties	_
life problems Concepts Tangent triangles, I	
involving Section 5-2 the definit	•
directional (Pgs.277283) Cosecant trigonome	
bearings. (Fig. 277 263) Cosecult Highlightonic	
Glencoe- Secant	
Sieniss Secure	
Students should be Precalculus(2012)	

	life problems	(Pgs 220 – 230)		Domain: F-TF
	involving harmonic		Bearing	Trigonometric
	motion.	Algebra and	Harmonic motion	Functions
		Trigonometry with		
		Analytic Geometry		Standard: Extend the
		(Swokowski		domain of
		(Pg 392 - 420)		trigonometric
				functions using the
		8 days		unit circle.
				3. Use special triangles
				to determine
				geometrically the
				values of sine, cosine,
				tangent for π - x , π + x ,
				$2 \pi - x$, $2 \pi + x$ in terms
				of their values for x,
				where x is any real
				number.

Review Unit 7 Trigonometry and Right Triangles 1 Day

Test Unit 7 Trigonometry and Right Triangles 1 Day

Unit 8 Trigonometry and Oblique Triangles

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
15 Days	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms.	In what ways might radians be more useful than degrees in various situations (or vice versa)?	Trigonometric Functions	Students should be able to evaluate trigonometric functions of any angle. Students should be able to use reference angles to evaluate trigonometric functions.	Trigonometric Functions of Any Angle Suggested Resources: Trigonometry (Hosteteler/Larson) Section 1-4 Pgs.160-168	Reference angles	Domain: F-TF Trigonometric Functions Standard: Extend the domain of trigonometric functions using the unit circle 1. Understand radian measure of an angle as

			Students should be able to evaluate trigomonetric functions of real numbers.	Advanced Mathematical Concepts Section 5-1 (Pgs.277283) Glencoe- Pre-calculus(2012) Section 4-2 (Pgs 231 – 241) Algebra and Trigonometry with Analytic Geometry (Swokowski) Pg 392 - 403) 1 Day		the length of the arc on the unit circle subtended by the angle. 2. Explain how the unit circle in the coordinate plane enables the extension of the trigonometric functions to all real numbers, interpreted as radian measure of angles traversed counterclockwise around the unit circle.
There are some mathematical relationships that are always true and these relationships are used as the rules of arithmetic and algebra and are useful for writing equivalent forms of expressions and solving equations and inequalities.	How does one know when to use the Law of Sines versus the Law of Cosines?	Trigonometric Functions	Students should be able to use the Law of Sines to solve oblique triangles (AAS or ASA) Students should be able to use the Law of Sines to solve oblique triangles (SSA).	The Law of Sines Suggested Resources: Trigonometry (Hosteteler/Larson) Section 3-1 Pgs.278-286 Advanced Mathematical Concepts Section 5-6 (Pgs.313318) Glencoe Pre-calculus(2012) Section 4-7 (Pgs 291 – 301) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 562 - 581) 3 Days	Law of Sines	Domain: G-SRT Similarity, Right Triangles, and Trigonometry Standard: Apply trigonometry to general triangles. 10. Prove the Laws of Sines and Cosines and use them to solve problems. 11. Understand and apply the Laws of Sines and the laws of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces)

There are some mathematical relationships that are always true and these relationships are used as the rules of arithmetic and algebra and are useful for	How does one know when to use the Law of Sines versus the Law of Cosines?	Trigonometric Functions	Students should be able to use the Law of Cosines to solve oblique triangles (SSS or SAS)	The Law of Cosines Suggested Resources: Trigonometry (Hosteteler/Larson)	Law of Cosines	Domain: G-SRT Similarity, Right Triangles, and Trigonometry Standard: Apply trigonometry to
writing equivalent forms of expressions and solving equations and inequalities.				Section 3-2 Pgs.287-2294 Advanced Mathematical Concepts Section 5-6 (Pgs.313318)		general triangles. 10. Prove the Laws of Sines and Cosines and use them to solve problems. 11. Understand and apply the Laws of Sines
				Glencoe Pre-calculus(2012) Section 4-7 (Pgs 291 – 301) Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 562 - 581) 5 Days		and the laws of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces)
There are some mathematical relationships that are always true and these relationships are used as the rules of arithmetic and algebra and are useful for writing equivalent forms of expressions and solving equations and inequalities.	How does one know when to use the Law of Sines versus the Law of Cosines?	Trigonometric Functions	Students should be able to use the Law of Sines to model and solve realworld problems. Students should be able to use the Law of Cosines to model and solve realworld problems.	Applications of the Use of the Laws of Sines and Cosines. Suggested Resources: Trigonometry (Hosteteler/Larson) Section 3-1 Pgs.278-286 Section 3-2 Pgs.287-2294	Law of Cosines	Domain: G-SRT Similarity, Right Triangles, and Trigonometry Standard: Apply trigonometry to general triangles. 10. Prove the Laws of Sines and Cosines and use them to solve problems.
				Advanced Mathematical Concepts Section 5-6 (Pgs.313318)		11. Understand and apply the Laws of Sines and the laws of Cosines to find unknown

	Glencoe Pre-calculus(2012) Section 4-7 (Pgs 291 – 301)	measurements in right and non-right triangles (e.g., surveying problems, resultant forces)
	Algebra and Trigonometry with Analytic Geometry (Swokowski) (Pg 562 - 581) 4 Days	

Review Unit 8 Trigonometry and Oblique Triangles 1 Day

Test Unit 8 Trigonometry and Oblique Triangles 1 Day

Unit 9 Vectors

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
12 days	Numbers, measures, expressions, equations, and inequalities can represent mathematical situations and structures in many equivalent forms.	How are vectors drawn, computed and manipulated?	Vectors	Students should be able to represent vectors as directed line segments. Students should be able to write the component forms of vectors. Students should be able to perform basic operations and represent them graphically.	Suggested Resources: Trigonometry (Hosteteler/Larson) Section 3-3 Pgs.295-307 Glencoe-Pre- calculus/2010- Chapter 8 Section 8-1 (Pgs 482 – 491) Section 8-2	Directed line segment Standard position Component form of a vector Scalars Magnitude Unit vector	Domain: N-VM Vector and Matrix Quantities Standard: Represent and model with vector quantities 1. Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols

			(Pgs 492 - 499)	for vectors and their
		Students should	,	magnitudes.
		be able to use	Algebra and	8
		vectors to model	Trigonometry with	Standard: Perform
		and solve real -	Analytic Geometry	
			Analytic Geometry	operations on vectors
		world problems.	(Swokowski Pg 581	
			- 596)	4. Add and subtract
				vectors.
			5 Days	
			-	a. Add vectors end-to-
				end, component wise
				and by the
				parallelogram rule.
				paranelogram rule.
				Understand that the
				magnitude of a sum of
				two vectors is
				typically not the sum
				of the magnitudes.
				3
				b. Given two vectors
				in magnitude and
				ili iliagilitude alid
				direction form,
				determine the
				magnitude and
				direction of their sum.
				c. Understand that
				vector subtraction is
				the additive inverse
				with the same
				magnitude and
				pointing in the
				opposite direction.
				Represent vector
				subtraction
				graphically by
				connecting
				the tips in the
				appropriate order,
				and perform vector
				subtraction
				component-wise.
				5. Multiply a vector
				by a scalar.
				by a scalar.
				a Danvacant agala-
				a. Represent scalar
				multiplication
				graphically by scaling

						vectors and possibly reversing their direction; perform scalar multiplication component-wise
There are some mathematical relationships that are always true and these relationships are used as the rules of arithmetic and algebra and are useful for writing equivalent forms of expressions and solving equations and inequalities.	How is the direction of a vector determined?	Vectors	Students should be able to find the dot products of two vectors and use the properties of Dot Product. Students should be able to use dot products to find the angle between two vectors. Students should be able to determine whether two vectors are orthogonal. Students should be able to write a vector as the sum of two vector components. Students should be able to find the projection of one vector onto another	Vectors and Dot Products Suggested Resources: Trigonometry (Hosteteler/Larson) Section 3-3 Pgs.295-307 Glencoe-Pre- calculus/2010- Section 8-3 (PC Pgs 500 – 508) Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 596 - 607 5 Days	Dot Product Orthogonal Vectors Vector Components	Domain: N-VM Vector and Matrix Quantities Standard: Represent and model with vector quantities 1. Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes. 2. Find the components of a vector by subtracting the coordinates of the initial point from the coordinates of the terminal points. 3. Solve vector problems involving velocity and other quantities that can be represented by
			Students should be able to use vectors to model and solve real –world problems.			Standard: Perform operations on vectors 4. Add and subtract vectors.
						a. Add vectors end-to- end, component wise and by the

-	 			
				parallelogram rule.
				Understand that
				the magnitude of a
				sum of two vectors is
				typically not the sum
				of the magnitudes.
				or the magnitudes.
				b. Given two vectors
				in magnitude and
				direction form,
				determine the
				magnitude and
				direction of their sum.
				direction of their sum.
				a Understand that
				c. Understand that
				vector subtraction is
1				the additive inverse
				with the same
				magnitude and
				pointing in the
				opposite direction.
				Represent vector
				subtraction graphically
				by connecting the tips
				in the appropriate
				order, and perform
				vector subtraction
				component-wise.
				•
				5. Multiply a vector by
				a scalar.
				a. Represent scalar
				multiplication
				graphically by scaling
				vectors and possibly
				reversing their
				direction; perform
				scalar multiplication
				component-wise.
				b. Compute the
				magnitude of a scalar
				multiple. Compute the
				direction of a scalar
				multiple knowing that
		 	 	lcl v ≠ 0, the direction
				-

			of cv is either along v (
			for c>0) or against v
			(for c<0).

Review Unit 9 Vectors 1 Day

Test Unit 9 Vectors 1 Day

Unit 10 Solving Systems of Equations with Matrices

Estimated Time Frame for Unit	Big Ideas	Essential Question	Concepts	Competencies	Lesson Plans and Suggested Resources	Vocabulary	Standards/Eligible Content
9 Days	Degree and direction of linear association between two variables is measurable	How do you differentiate between two independent events and two dependent events and how do you calculate the probabilities for each situation?	Algebraic properties, processes and representations	Students should be able to organize data into matrices. Students should be able to matrix row and column operations to analyze data.	Introduction to Matrices Suggested Text Glencoe Algebra 2 (2010)- Chapter 4- Section 4-1 (pgs 185 – 191) 1 Days	Matrix Element Dimensions Row matrix Column matrix Square matrix Zero matrix Equal matrices	Domain: A-REI Reasoning with Equations and Inequalities Standard: Solve systems of equation 8. Represent a system of linear equations as a single matrix equation in a vector variable. 9. Find the inverse of a matrix if it exist and use it to solve systems of linear equations. (using technology for matrices of dimensions of 3 x 3 or higher)
	Degree and direction of linear association between two variables is measurable	How do you differentiate between two independent events and two dependent events and how do you calculate the probabilities for each situation?	Algebraic properties, processes and representations.	Students should be able to add and subtract matrices. Students should be able to multiply a matrix by a scalar	Operations with Matrices- Suggested Text- Glencoe Algebra 2 (2010)-Section 4-2 (pgs 191 – 199) Section 4-3	Scaler Scalar multiplication	Domain: A-REI Reasoning with Equations and Inequalities Standard: Solve systems of equation

Degree and direction of linear association between two variables is measurable	How do you differentiate between two independent events and two dependent events and how do you calculate the probabilities for each situation?	Algebraic properties, processes and representations.	Students should be able to multiply matrices. Students should be able to use the properties of matrix multiplication. Students should be able to find the inverse of a 2 x 2 matrix. Students should be able to write and solve matrix equations for a system of equations	Inverse Matrices and Systems of Equations Suggested Text- Glencoe Algebra 2 (2010) Section 4-6 (pgs 229 – 235) Glencoe Precalculus -2011 Section 6-3 Pgs.388-394 Algebra and Trigonometry with Analytic Geometry (Swokowski Pg 687 - 709) 5-days		8. Represent a system of linear equations as a single matrix equation in a vector variable. 9. Find the inverse of a matrix if it exist and use it to solve systems of linear equations. (using technology for matrices of dimensions of 3 x 3 or higher) Domain: A-REI Reasoning with Equations and Inequalities Standard: Solve systems of linear equation as a single matrix equation in a vector variable. 9. Find the inverse of a matrix if it exist and use it to solve systems of linear equations. (using technology for matrices of dimensions of 3 x 3 or higher)		
	Review Unit 10 Solving Systems of Equations with Matrices 1 Day							
	Test Unit 10 Solving Systems of Equations with Matrices 1 Day							