

Map: **Essentials in Algebra 2 & Trigonometry: Buonomo/Cohen** Type: **Consensus** Grade Level: **11** School Year: **2010-2011**

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This map copied from: **Essentials in Algebra 2 & Trigonometry: Buonomo/Cohen** by **Mike Buonomo**

	Essential Questions	Content	Skills	Assessments	Standards/PIs	Resources/Notes
Unit 1	<p>How can we use our prior knowledge to solve linear/quadratic equations and inequalities?</p> <p>How can we solve a quadratic equation that is not factorable?</p> <p>Why would we need alternate methods for solving quadratic equations?</p> <p>How do absolute value equations/inequalities differ from linear equations/inequalities?</p>	<p>Equations</p> <p>Review linear equations and inequalities</p> <p>Review quadratic equations</p> <p>Quadratic Formula</p> <p>Discriminant</p> <p>Sum and Product of the Roots</p> <p>Completing the Square</p> <p>Absolute Value Equations and Inequalities</p> <p><u>Vocabulary:</u> equations, expressions, inequalities, linear, quadratic, factor,</p>	<p>recalls methods of solving linear equations and inequalities</p> <p>demonstrates knowledge of factoring quadratic expressions</p> <p>recognizes when to apply the quadratic formula</p> <p>employs correct procedure to solving equations using quadratic formula</p> <p>demonstrates knowledge of the discriminant</p> <p>manipulates equations to determine the sum and product of the roots</p> <p>recognizes when to apply the completing the square method</p> <p>employs correct procedure to solving equations using the completing the square method</p> <p>isolates the absolute value symbol</p>		<p>MST3-A2.A.1</p> <p>MST3-A2.A.2</p> <p>MST3-A2.A.4</p> <p>MST3-A2.A.7</p> <p>MST3-A2.A.13</p> <p>MST3-A2.A.20</p> <p>MST3-A2.A.21</p> <p>MST3-A2.A.24</p> <p>MST3-A2.A.25</p>	

		quadratic formula, complete the square, discriminant, sum of roots, product of roots, absolute value	<p>employs correct procedure to solving absolute value equations</p> <p>sketches appropriate graphs on the number line</p> <p>converts answers to appropriate set notation</p>		
Unit 2	<p>Why do we need to simplify radicals?</p> <p>How do mathematical operations with radicals differ from mathematical operations with integers?</p> <p>How can we differentiate between the imaginary number system and the real number system?</p> <p>How do radical equations compare/contrast with linear equations?</p>	<p>Radicals</p> <p>Roots</p> <p>Simplify Radicals</p> <p>Add/Subtract Radicals</p> <p>Multiply/Divide Radicals</p> <p>Imaginary Numbers</p> <p>Add/Subtract Imaginary Numbers</p> <p>Powers of i</p> <p>Multiply/Divide Imaginary Numbers</p>	<p>determines whether or not a number is a perfect square</p> <p>uses appropriate method to simplify a radical</p> <p>identifies whether or not radicals can be combined</p> <p>applies appropriate procedure for multiplying/dividing radicals</p> <p>demonstrates the ability to convert numbers into a + bi form appropriately</p> <p>memorizes the powers of i</p> <p>manipulates imaginary numbers in order to add/subtract/multiply/divide</p> <p>solves equations containing radicals</p>	<p>MST3-A2.A.13</p> <p>MST3-A2.A.14</p> <p>MST3-A2.A.15</p> <p>MST3-A2.A.22</p> <p>MST3-A2.N.2</p> <p>MST3-A2.N.4</p> <p>MST3-A2.N.5</p> <p>MST3-A2.N.6</p> <p>MST3-A2.N.7</p> <p>MST3-A2.N.8</p> <p>MST3-A2.N.9</p>	

		<p>Solve Equations with Imaginary Roots</p> <p>Solve Radical Equations</p> <p>Rationalize Denominators</p> <p><u>Vocabulary:</u> perfect square, roots, radicand, coefficient, power, cube root, imaginary number, real axis, imaginary axis, rational, irrational, conjugate</p>	<p>identifies the need to rationalize the denominator of a fraction</p> <p>applies appropriate procedure to rationalize the denominator</p>			
Unit 3	<p>How can we use our knowledge of factoring to simplify fractions?</p> <p>How does the procedure of adding fractions differ from subtracting fractions? How is it similar?</p> <p>How can we recognize a complex fraction?</p>	<p>Fractions:</p> <p>Simplify fractions</p> <p>Multiply fractions</p> <p>Divide fractions</p> <p>Add fractions</p>	<p>modifies the expression(s) into factored form</p> <p>recognizes identical factors</p> <p>distinguishes between the different procedure for multiplying and dividing</p> <p>distinguishes between the different procedure for adding and subtracting</p>		<p>MST3-A2.A.16</p> <p>MST3-A2.A.17</p> <p>MST3-A.A.17</p> <p>MST3-A.A.18</p> <p>MST3-A.A.25</p>	

		<p>Subtract fractions</p> <p>Simplify complex fractions</p> <p>Solve fractional equations</p> <p><u>Vocabulary:</u> simplest form, lowest terms, complex fraction, common denominator, common factor</p>	<p>converts fractions in order to obtain common denominators</p> <p>recognizes the common denominator</p> <p>employs the correct procedure to simplify the complex fraction</p> <p>recognizes the common denominator</p> <p>employs the correct procedure for solving fractional equations</p>			
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	Essential Questions	Content	Skills	Assessments	Standards/PIs	Resources/Notes
Unit 4	<p>What is the relationship between a root and an exponent?</p> <p>Why is the study of logarithms useful?</p> <p>How do we apply logarithms to everyday mathematical operations?</p>	<p>Exponents</p> <p>Review of exponent rules</p> <p>Fractional exponents</p> <p>Negative exponents</p> <p>Exponential equations</p> <p>Exponential form of a number</p> <p>Logarithmic form of a number</p> <p>Log rules: multiplication, division, exponents</p> <p>Optional Topic: using logs to solve exponential equations</p> <p><u>Vocabulary:</u> base, exponent, fractional exponent, negative exponent, roots, common base, logarithms, logs, anti-logs, exponential form</p>	<p>applies the rules of exponents to evaluate expressions</p> <p>converts fractional exponents to radicals</p> <p>simplifies expressions with negative exponents</p> <p>generates a common base between two expressions</p> <p>solves exponential equations</p> <p>manipulates expressions between log form and exponential form</p> <p>applies rules of logarithms to evaluate expressions and solve equations</p> <p>interprets the difference between log and anti-log of a number</p>		<p>MST3-A2.A.8</p> <p>MST3-A2.A.9</p> <p>MST3-A2.A.10</p> <p>MST3-A2.A.11</p> <p>MST3-A2.A.18</p> <p>MST3-A2.A.19</p> <p>MST3-A2.A.27</p> <p>MST3-A2.A.28</p>	
	<p>How do we know the difference between a relation and a function?</p>	<p>Functions</p> <p>Definition of a Relation</p>	<p>distinguishes between relations and functions</p>		<p>MST3-A2.A.37</p> <p>MST3-A2.A.38</p> <p>MST3-A2.A.39</p>	

Unit 5	How do we know the difference between a <i>one-to-one</i> function and an <i>onto</i> function?	<p>Definition of a Function</p> <p>Functional Notation</p> <p>Evaluating Functions</p> <p>Composite Functions</p> <p>Domain</p> <p>Range</p> <p>One-to-One Functions</p> <p>Onto Functions</p> <p>Inverse Functions</p> <p><u>Vocabulary</u></p> <p>relation, function, function notation, composite functions, element, domain, range, one-to-one function, onto function, inverse function</p>	<p>applies the Vertical Line Test</p> <p>evaluates functions</p> <p>employs the correct procedure to evaluate composite functions</p> <p>identifies the domain and range of a given function</p> <p>uses set notation to describe the domain and range of a function</p> <p>determines if a function is one-to-one, onto, both, or neither</p> <p>manipulates a function to find its inverse</p>		<p>MST3-A2.A.40</p> <p>MST3-A2.A.41</p> <p>MST3-A2.A.42</p> <p>MST3-A2.A.43</p> <p>MST3-A2.A.44</p> <p>MST3-A2.A.45</p> <p>MST3-A2.A.51</p> <p>MST3-A2.A.52</p>
	How do we use the Pythagorean Theorem and basic trig functions appropriately to find missing	<p>Trigonometry</p> <p>Review Pythagorean Theorem</p>	<p>recalls how and when to use the Pythagorean Theorem</p> <p>recalls how and when</p>		<p>MST3-A2.A.55</p> <p>MST3-A2.A.56</p> <p>MST3-A2.A.57</p> <p>MST3-A2.A.58</p>

Unit 6	information?		to use basic trig functions	MST3-A2.A.59
	Why do we need reciprocal trig functions?	Review basic trig functions		MST3-A2.A.60
	How can we use our knowledge of cofunctions to solve angles?	Reciprocal trig functions	identifies the appropriate ratio of sides as they apply to the reciprocal trig functions	MST3-A2.A.62 MST3-A2.A.64 MST3-A2.A.66
	How are angle measures in all four quadrants related to each other?	Cofunctions	produces appropriate equation from given information	MST3-A2.A.68 MST3-A2.A.73 MST3-A2.A.74
	What is the relationship between the cosine and sine of an angle and its measure?	Unit Circle	solves the equation	
	How can we apply our knowledge of solving equations for variables to solving trig equations?	Solve linear/quadratic trig equations	identifies the reference angle	
	How can we use the Law of Sines/Cosines to determine missing information?	Law of Sines	explains the appropriate placement for angles within the unit circle	
	Why do we need a new formula to find the area of a triangle?	Law of Cosines	calculates the measure of the angle using the reference angle and quadrant placement	
		Area of a triangle	recognizes the relationship between the sine and cosine of an angle and its measure	
		<u>Vocabulary</u>	solves a linear/quadratic equation for a value of a function	
	hypotenuse, leg, opposite, adjacent, sine, cosine, tangent, secant, cosecant, cotangent, complementary, quadrants, reciprocal, Law of Sines, Law of Cosines	obtains appropriate angle measures		

			<p>identifies when use of Law of Sines is necessary</p> <p>identifies when use of Law of Cosines is necessary</p> <p>sets up appropriate proportion</p> <p>substitutes appropriately into Law of Cosines</p> <p>enters correct Law of Cosines information into calculator</p> <p>identifies when area formula is necessary</p> <p>substitutes into formula appropriately</p>			
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	Essential Questions	Content	Skills	Assessments	Standards/PIs	Resources/Notes
Unit 7	<p>How can we accurately locate the solution(s) for a system of equations?</p> <p>What are the differences and similarities between an algebraic method and graphic method?</p> <p>How can we apply our knowledge of the calculator to help construct trigonometric graphs?</p> <p>How are trig graphs affected when leading coefficients change?</p>	<p>Graphing</p> <p>Review slope-intercept form of a line</p> <p>Review standard form of a parabola</p> <p>Review the equation of a circle</p> <p>Graph systems of equations: linear-quadratic, linear-circle, quadratic-circle</p> <p>Roots, intersections, maximum, minimum values</p> <p>Absolute value graphs</p> <p>Exponential graphs</p> <p>Sine, Cosine, Tangent curves</p> <p>Amplitude, Period, Frequency</p> <p>Phase shift</p> <p>Vertical shift</p>	<p>recalls appropriate method to graph a line</p> <p>recalls appropriate method to graph a parabola</p> <p>recalls appropriate method to graph a circle</p> <p>calculates roots, intersections, maximum, and minimum values algebraically</p> <p>calculates roots, intersections, maximum, and minimum values using technology</p> <p>sketches the graph of an absolute value equation</p> <p>sketches the graph of an exponential equation</p> <p>compares and contrasts the differences and similarities between the sine and cosine curves</p> <p>computes altitude, frequency, period, phase shift, and vertical shift of a</p>		<p>MST3-A2.A.69</p> <p>MST3-A2.A.70</p> <p>MST3-A2.A.72</p> <p>MST3-A2.A.71</p> <p>MST3-A.A.28</p> <p>MST3-A.A.41</p> <p>MST3-A2.R.1</p>	

		<p><u>Vocabulary</u></p> <p>slope, intercept, roots, zeros, maximum, minimum, vertex, window range, axis of symmetry, turning point, center, radius, system of equations, points of intersection, amplitude, frequency, period, phase shift, vertical shift</p>	<p>sine/cosine curve</p> <p>sketches sine, cosine, tangent curves</p> <p>generates the equation of a sine/cosine curve from the given graph</p>		
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Key to Standards used in this Map

- MST3-A2.R.1** [1 occurrence] - MST Standard 3 - Representation Strand - Students will create and use representations to organize, record, and communicate mathematical ideas. - Performance Indicator A2.R.1 - use physical objects, diagrams, charts, tables, graphs, symbols, equations, or objects created using technology as representations of mathematical concepts [Algebra 2 and Trigonometry]
- MST3-A2.N.2** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.2 - perform arithmetic operations (addition, subtraction, multiplication, division) with expressions containing irrational numbers in radical form [Algebra 2 and Trigonometry]
- MST3-A2.N.4** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.4 - perform arithmetic operations on irrational expressions [Algebra 2 and Trigonometry]
- MST3-A2.N.5** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.5 - rationalize a denominator containing a radical expression [Algebra 2 and Trigonometry]
- MST3-A2.N.6** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.6 - write square roots of negative numbers in terms of i [Algebra 2 and Trigonometry]
- MST3-A2.N.7** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.7 - simplify powers of i [Algebra 2 and Trigonometry]
- MST3-A2.N.8** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.8 - determine the conjugate of a complex number [Algebra 2 and Trigonometry]
- MST3-A2.N.9** [1 occurrence] - MST Standard 3 - Number Sense and Operations Strand - Students will understand meanings of operations and procedures, and how they relate to one another. [Operations] - Performance Indicator A2.N.9 - perform arithmetic operations on complex numbers and write the answer in the form $a + bi$. [Algebra 2 and Trigonometry]
- MST3-A.A.17** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A.A.17 - add or subtract fractional expressions with monomial or like binomial denominators [Algebra]
- MST3-A.A.18** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A.A.18 - multiply and divide algebraic fractions and express the product or quotient in simplest form [Algebra]
- MST3-A.A.25** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A.A.25 - solve equations involving fractional expressions [Algebra]
- MST3-A.A.28** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A.A.28 - understand the difference and connection between roots of a quadratic equation and factors of a quadratic expression [Algebra]
- MST3-A.A.41** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Coordinate Geometry] - Performance Indicator A.A.41 - determine the vertex and axis of symmetry of a parabola, given its equation (see a.g.10) [Algebra]
- MST3-A2.A.1** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will represent and analyze algebraically a wide variety of problem solving situations. [Equations and Inequalities] - Performance Indicator A2.A.1 - solve absolute value equations and inequalities involving linear expressions in one variable [Algebra 2 and Trigonometry]
- MST3-A2.A.2** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will represent and analyze algebraically a wide variety of problem solving situations. [Equations and Inequalities] - Performance Indicator A2.A.2 - use the discriminant to determine the nature of the roots of a quadratic equation [Algebra 2 and Trigonometry]
- MST3-A2.A.4** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will represent and analyze algebraically a wide variety of problem solving situations. [Equations and Inequalities] - Performance Indicator A2.A.4 - solve quadratic inequalities in one and two variables, algebraically and graphically [Algebra 2 and Trigonometry]

- MST3-A2.A.7** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.7 - factor polynomial expressions completely, using any combination of the following techniques: common factor extraction, difference of two perfect squares, quadratic trinomials [Algebra 2 and Trigonometry]
- MST3-A2.A.8** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.8 - apply the rules of exponents to simplify expressions involving negative and/or fractional exponents [Algebra 2 and Trigonometry]
- MST3-A2.A.9** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.9 - rewrite algebraic expressions that contain negative exponents using only positive exponents [Algebra 2 and Trigonometry]
- MST3-A2.A.10** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.10 - rewrite algebraic expressions with fractional exponents as radical expressions [Algebra 2 and Trigonometry]
- MST3-A2.A.11** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.11 - rewrite algebraic expressions in radical form as expressions with fractional exponents [Algebra 2 and Trigonometry]
- MST3-A2.A.13** [2 occurrences] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.13 - simplify radical expressions [Algebra 2 and Trigonometry]
- MST3-A2.A.14** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.14 - perform addition, subtraction, multiplication and division of radical expressions [Algebra 2 and Trigonometry]
- MST3-A2.A.15** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.15 - rationalize denominators involving algebraic radical expressions [Algebra 2 and Trigonometry]
- MST3-A2.A.16** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.16 - perform arithmetic operations with rational expressions and rename to lowest terms [Algebra 2 and Trigonometry]
- MST3-A2.A.17** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.17 - simplify complex fractional expressions [Algebra 2 and Trigonometry]
- MST3-A2.A.18** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.18 - evaluate logarithmic expressions in any base [Algebra 2 and Trigonometry]
- MST3-A2.A.19** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Variables and Expressions] - Performance Indicator A2.A.19 - apply the properties of logarithms to rewrite logarithmic expressions in equivalent forms [Algebra 2 and Trigonometry]
- MST3-A2.A.20** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.20 - determine the sum and product of the roots of a quadratic equation by examining its coefficients [Algebra 2 and Trigonometry]
- MST3-A2.A.21** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.21 - determine the quadratic equation, given the sum and product of its roots [Algebra 2 and Trigonometry]
- MST3-A2.A.22** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.22 - solve radical equations [Algebra 2 and Trigonometry]
- MST3-A2.A.24** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.24 - know and apply the technique of completing the square [Algebra 2 and Trigonometry]
- MST3-A2.A.25** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.25 - solve quadratic equations, using the quadratic formula [Algebra 2 and Trigonometry]
- MST3-A2.A.27** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.27 - solve exponential equations with and without common bases [Algebra 2 and Trigonometry]
- MST3-A2.A.28** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will perform algebraic procedures accurately. [Equations and Inequalities] - Performance Indicator A2.A.28 - solve a logarithmic equation by rewriting as an exponential equation [Algebra 2 and Trigonometry]
- MST3-A2.A.37** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.37 - define a relation and function [Algebra 2 and Trigonometry]
- MST3-A2.A.38** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.38 - determine when a relation is a function [Algebra 2 and Trigonometry]
- MST3-A2.A.39** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.39 - determine the domain and range of a function from its equation [Algebra 2 and Trigonometry]
- MST3-A2.A.40** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.40 - write functions in functional notation [Algebra 2 and Trigonometry]
- MST3-A2.A.41** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.41 - use functional notation to evaluate functions for given values in the domain [Algebra 2 and Trigonometry]
- MST3-A2.A.42** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.42 - find the composition of functions [Algebra 2 and Trigonometry]
- MST3-A2.A.43** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.43 - determine if a function is one-to-one, onto, or both [Algebra 2 and Trigonometry]
- MST3-A2.A.44** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.44 - define the inverse of a function [Algebra 2 and Trigonometry]

- MST3-A2.A.45** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Patterns, Relations and Functions] - Performance Indicator A2.A.45 - determine the inverse of a function and use composition to justify the result [Algebra 2 and Trigonometry]
- MST3-A2.A.51** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Coordinate Geometry] - Performance Indicator A2.A.51 - determine the domain and range of a function from its graph [Algebra 2 and Trigonometry]
- MST3-A2.A.52** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Coordinate Geometry] - Performance Indicator A2.A.52 - identify relations and functions, using graphs [Algebra 2 and Trigonometry]
- MST3-A2.A.55** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.55 - express and apply the six trigonometric functions as ratios of the sides of a right triangle [Algebra 2 and Trigonometry]
- MST3-A2.A.56** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.56 - know the exact and approximate values of the sine, cosine, and tangent of 0° , 30° , 45° , 60° , 90° , 180° , and 270° angles [Algebra 2 and Trigonometry]
- MST3-A2.A.57** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.57 - sketch and use the reference angle for angles in standard position [Algebra 2 and Trigonometry]
- MST3-A2.A.58** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.58 - know and apply the co-function and reciprocal relationships between trigonometric ratios [Algebra 2 and Trigonometry]
- MST3-A2.A.59** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.59 - use the reciprocal and co-function relationships to find the value of the secant, cosecant, and cotangent of 0° , 30° , 45° , 60° , 90° , 180° , and 270° angles [Algebra 2 and Trigonometry]
- MST3-A2.A.60** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.60 - sketch the unit circle and represent angles in standard position [Algebra 2 and Trigonometry]
- MST3-A2.A.62** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.62 - find the value of trigonometric functions, if given a point on the terminal side of angle theta [Algebra 2 and Trigonometry]
- MST3-A2.A.64** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.64 - use inverse functions to find the measure of an angle, given its sine, cosine, or tangent [Algebra 2 and Trigonometry]
- MST3-A2.A.66** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.66 - determine the trigonometric functions of any angle, using technology [Algebra 2 and Trigonometry]
- MST3-A2.A.68** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.68 - solve trigonometric equations for all values of the variable from 0° to 360° [Algebra 2 and Trigonometry]
- MST3-A2.A.69** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.69 - determine amplitude, period, frequency, and phase shift, given the graph or equation of a periodic function [Algebra 2 and Trigonometry]
- MST3-A2.A.70** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.70 - sketch and recognize one cycle of a function of the form $y = a \sin bx$ or $y = a \cos bx$ [Algebra 2 and Trigonometry]
- MST3-A2.A.71** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.71 - sketch and recognize the graphs of the functions $y = \sec(x)$, $y = \csc(x)$, $y = \tan(x)$, and $y = \cot(x)$ [Algebra 2 and Trigonometry]
- MST3-A2.A.72** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.72 - write the trigonometric function that is represented by a given periodic graph [Algebra 2 and Trigonometry]
- MST3-A2.A.73** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.73 - solve for an unknown side or angle, using the law of sines or the law of cosines [Algebra 2 and Trigonometry]
- MST3-A2.A.74** [1 occurrence] - MST Standard 3 - Algebra Strand - Students will recognize, use, and represent algebraically patterns, relations, and functions. [Trigonometric Functions] - Performance Indicator A2.A.74 - determine the area of a triangle or a parallelogram, given the measure of two sides and the included angle [Algebra 2 and Trigonometry]