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Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.N.RN.A.1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.	Textbook	3: Inverting Functions	1: Radical Functions	4: Keepin' It Real: Rewriting Radical Expressions pp. M3-51A–M3-70
		MATHia Software	3: Inverting Functions	2: Simplification and Operations with Radicals	1: Simplifying Radicals
					2: Adding and Subtracting Radicals
					3: Multiplying Radicals
4: Dividing Radicals					
A2.N.RN.A.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Textbook	3: Inverting Functions	1: Radical Functions	4: Keepin' It Real: Rewriting Radical Expressions pp. M3-51A–M3-70
		MATHia Software	3: Inverting Functions	3: Radical Expressions with Variables	1: Simplifying Radicals with Variables 2: Adding and Subtracting Radicals with Variables
A2.N.Q.A.1	Identify, interpret, and justify appropriate quantities for the purpose of descriptive modeling.	Textbook	1: Searching for Patterns	1: Quantities and Relationships	1: A Picture Is Worth a Thousand Words: Understanding Quantities and Their Relationships pp. M1-7A–M1-20
			3: Investigating Growth and Decay	2: Using Exponential Equations	3: Savings, Tea, and Carbon Dioxide: Modeling Using Exponential Functions pp. M3-103A–M3-114
					4: BAC Is BAD News: Choosing a Function to Model BAC pp. M3-115A–M3-124
A2.N.CN.A.1	Know there is a complex number i such that $i^2 = -1$, and every complex number has the form $a + bi$ with a and b real.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	6: i Want to Believe: Imaginary and Complex Numbers pp. M1-93A–M1-114
		MATHia Software	1: Analyzing Structure	4: Operations with Complex Numbers	1: Introduction to Complex Numbers 2: Simplifying Radicals with Negative Radicals 3: Simplifying Powers of i
A2.N.CN.A.2	Know and use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	6: i Want to Believe: Imaginary and Complex Numbers pp. M1-93A–M1-114
		MATHia Software	1: Analyzing Structure	4: Operations with Complex Numbers	4: Adding and Subtracting Complex Numbers 5: Multiplying Complex Numbers
A2.N.CN.B.3	Solve quadratic equations with real coefficients that have complex solutions.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	6: i Want to Believe: Imaginary and Complex Numbers pp. M1-93A–M1-114
		MATHia Software	1: Analyzing Structure	4: Operations with Complex Numbers	6: Solving Quadratic Equations with Complex Roots

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)	
A2.A.SSE.A.1	Use the structure of an expression to identify ways to rewrite it.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	4: True to Form: Forms of Quadratic Functions pp. M1-51A–M1-78	
			2: Developing Structural Similarities	3: Rational Functions	1: Relating Factors and Zeros	1: Satisfactory Factoring: Factoring Polynomials to Identify Zeros pp. M2-7A–M2-22
					2: Divide and Conquer: Polynomial Division pp. M2-23A–M2-42	
			4: Investigating Periodic Functions	2: Trigonometric Equations	4: Must Be a Rational Explanations: Operations with Rational Expressions pp. M2-183A–M2-200	5: Thunder. Thun- Thun- Thunder.: Solving Problems with Rational Equations pp. M2-201A–M2-222
		2: Chasing Theta: Solving Trigonometric Equations pp. M4-105A–M4-118				
		MATHia Software	1: Analyzing Structure	3: Forms of Quadratic Functions	1: Examining the Shape and Structure of Quadratic Functions	
2: Developing Structural Similarities	2: Solving Polynomials	1: Factoring Higher Order Polynomials				
A2.A.SSE.B.2a	Use the properties of exponents to transform expressions for exponential functions.	Textbook	3: Inverting Functions	2: Exponential and Logarithmic Functions	4: I Like to Move It: Transformations of Exponential and Logarithmic Functions pp. M3-137A–M3-158	
A2.A.SSE.B.3	Recognize a finite geometric series (when the common ratio is not 1), and use the sum formula to solve problems in context.*	Textbook	3: Inverting Functions	4: Applications of Growth Modeling	1: Series Are Sums: Geometric Series pp. M3-249A–M3-266	
		MATHia Software	3: Inverting Functions	6: Finite Geometric Solutions	1: Introduction to Finite Geometric Series 2: Problem Solving using Finite Geometric Series	
A2.A.APR.A.1	Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a , the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.	Textbook	2: Developing Structural Similarities	1: Relating Factors and Zeros	2: Divide and Conquer: Polynomial Division pp. M2-23A–M2-42	
		MATHia Software	2: Developing Structural Similarities	2: Solving Polynomials	2: Solving Polynomial Functions	

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.A.APR.A.2	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	Textbook	1: Analyzing Structure	2: Composing and Decomposing Functions	1: Blame It on the Rain: Modeling with Functions pp. M1-129A-M1-138 4: The Zero's the Hero: Decomposing Cubic Functions pp. M1-167A-M1-182
				3: Characteristics of Polynomial Functions	3: Poly-Wog: Key Characteristics of Polynomial Functions pp. M1-225A-M1-248 4: Function Construction: Building Cubic and Quartic Functions pp. M1-249A-M1-268
			2: Developing Structural Similarities	1: Relating Factors and Zeros	1: Satisfactory Factoring: Factoring Polynomials to Identify Zeros pp. M2-7A-M2-22
			MATHia Software	1: Analyzing Structure	5: Graphs of Polynomial Functions
A2.A.APR.B.3	Know and use polynomial identities to describe numerical relationships.	Textbook	2: Developing Structural Similarities	2: Polynomial Models	1: Not a Case of Mistaken Identity: Exploring Polynomial Identities pp. M2-77A-M2-90
A2.A.APR.C.4	Rewrite rational expressions in different forms.	Textbook	2: Developing Structural Similarities	3: Rational Functions	3: There's a Hole in My Function!: Graphical Discontinuities pp. M2-167A-M2-182 4: Must Be a Rational Explanations: Operations with Rational Expressions pp. M2-183A-M2-200
					MATHia Software
		4: Rational Expressions and Equations	1: Simplifying Rational Expressions 2: Multiplying and Dividing Rational Expressions 3: Adding and Subtracting Rational Expressions		
		5: Rational Models	1: Modeling Rational Functions		

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)	
A2.A.CED.A.1	Create equations and inequalities in one variable and use them to solve problems.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	2: The Cat's Out of the Bag!: Generating Algebraic Expressions pp. M1-17A–M1-30	
					3: Samesies: Comparing Multiple Representations of Functions pp. M1-31A–M1-50	
					4: True to Form: Forms of Quadratic Functions pp. M1-51A–M1-78	
			2: Developing Structural Similarities	3: Rational Functions	4: Unequal Equals: Solving Polynomial Inequalities pp. M2-51A–M2-64	
		5: Thunder. Thun- Thun- Thunder.: Solving Problems with Rational Equations pp. M2-201A–M2-222				
		MATHia Software	2: Developing Structural Similarities	2: Solving Polynomials	5: Rational Models	6: 16 Tons and What Do You Get?: Solving Work, Mixture, Distance, and Cost Problems pp. M2-223A–M2-238
						3: Solving Polynomial Inequalities
						2: Using Rational Models
3: Solving Work, Mixture, and Distance Problems						
4: Modeling and Solving with Rational Functions						
A2.A.CED.A.2	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	Textbook	3: Inverting Functions	1: Radical Functions	5: Into the Unknown: Solving Radical Equations pp. M3-71A–M3-80	
A2.A.REI.A.1	Explain each step in solving an equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	Textbook	2: Developing Structural Similarities	3: Rational Functions	5: Thunder. Thun- Thun- Thunder.: Solving Problems with Rational Equations pp. M2-201A–M2-222	
					6: 16 Tons and What Do You Get?: Solving Work, Mixture, Distance, and Cost Problems pp. M2-223A–M2-238	
		4: Investigating Periodic Functions	2: Trigonometric Equations	2: Chasing Theta: Solving Trigonometric Equations pp. M4-105A–M4-118		

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.A.REI.A.2	Solve simple rational and radical equations in one variable, and identify extraneous solutions when they exist.	Textbook	2: Developing Structural Similarities	3: Rational Functions	5: Thunder. Thun- Thun- Thunder.: Solving Problems with Rational Equations pp. M2-201A–M2-222
			3: Inverting Functions	1: Radical Functions	6: 16 Tons and What Do You Get?: Solving Work, Mixture, Distance, and Cost Problems pp. M2-223A–M2-238
		MATHia Software	2: Developing Structural Similarities	3: Rational Functions	5: Into the Unknown: Solving Radical Equations pp. M3-71A–M3-80
				4: Rational Expressions and Equations	2: Modeling Ratios as Rational Functions
A2.A.REI.B.3	Solve quadratic equations and inequalities in one variable.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	4: Solving Rational Equations that Result in Linear Equations
A2.A.REI.B.3a	Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, knowing and applying the quadratic formula, and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b .	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	5: The Root of the Problem: Solving Quadratic Equations pp. M1-79–M1-92
					6: i Want to Believe: Imaginary and Complex Numbers pp. M1-93A–M1-114
		MATHia Software	1: Analyzing Structure	3: Forms of Quadratic Functions	2: Quadratic Modeling
A2.A.REI.C.4	Write and solve a system of linear equations in context.	Textbook	2: Exploring Constant Change	3: Systems of Equations and Inequalities	3: Quadratic Equation Solving
					1: Double the Fun: Introduction to Systems of Equations pp. M2-139A–M2-154
					2: The Elimination Round: Using Linear Combinations to Solve a System of Linear Equations pp. M2-155A–M2-168
A2.A.REI.C.5	Solve a system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	5: Working the System: Solving Systems of Equations and Inequalities pp. M2-199A–M2-208
					5: The Root of the Problem: Solving Quadratic Equations pp. M1-79–M1-92

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A2.A.REI.D.6	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions using technology.*	Textbook	1: Analyzing Structure	2: Composing and Decomposing Functions	1: Blame It on the Rain: Modeling with Functions pp. M1-129A-M1-138
				3: Characteristics of Polynomial Functions	5: Level Up: Analyzing Polynomial Functions pp. M1-269A-M1-280
			2: Developing Structural Similarities	3: Rational Functions	5: Thunder. Thun- Thun- Thunder.: Solving Problems with Rational Equations pp. M2-201A-M2-222
			3: Inverting Functions	2: Exponential and Logarithmic Functions	1: Half-Life: Comparing Linear and Exponential Functions pp. M3-93A-M3-106
				3: Exponential and Logarithmic Equations	2: Pert and Nert: Properties of Exponential Graphs pp. M3-107A-M3-124
A2.F.IF.A.1	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.*	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	2: The Cat's Out of the Bag!: Generating Algebraic Expressions pp. M1-17A-M1-30
					4: True to Form: Forms of Quadratic Functions pp. M1-51A-M1-78
				2: Composing and Decomposing Functions	3: Planting the Seeds: Exploring Cubic Functions pp. M1-153A-M1-166
				3: Characteristics of Polynomial Functions	3: Poly-Wog: Key Characteristics of Polynomial Functions pp. M1-225A-M1-248
5: Level Up: Analyzing Polynomial Functions pp. M1-269A-M1-280					

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.F.IF.A.1	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.*	Textbook	2: Developing Structural Similarities	2: Polynomial Models	3: Modeling Gig: Modeling with Polynomial Functions and Data pp. M2-103A-M2-117
			3: Inverting Functions	2: Exponential and Logarithmic Functions	1: Strike That, Invert It: Inverses of Power Functions pp. M3-7A-M3-18
					2: Such a Rad Lesson: Radical Functions pp. M3-19A-M3-40
			4: Investigating Periodic Functions	1: Trigonometric Relationships	1: Half-Life: Comparing Linear and Exponential Functions pp. M3-93A-M3-106
					2: Pert and Nert: Properties of Exponential Graphs pp. M3-107A-M3-124
			5: Farmer's Tan: The Tangent Function pp. M4-65A-M4-82	2: Trigonometric Equations	3: Return of the Inverse: Logarithmic Functions pp. M3-125A-M3-136
					1: A Sense of Deja Vu: Periodic Functions pp. M4-7A-M4-22
			MATHia Software	1: Analyzing Structure	5: Graphs of Polynomial Functions
		5: Springs Eternal: The Damping Function pp. M4-131A-M4-152			
		MATHia Software	1: Analyzing Structure	5: Graphs of Polynomial Functions	2: Graphs of Functions
1: Identifying Key Characteristics of Graphs of Functions					
MATHia Software	1: Analyzing Structure	5: Graphs of Polynomial Functions	3: Classifying Polynomial Functions		
			4: Interpreting Key Features of Graphs in Terms of Quantities		
MATHia Software	1: Analyzing Structure	5: Graphs of Polynomial Functions	5: Identifying Key Characteristics of Polynomial Functions		
			5: Identifying Key Characteristics of Polynomial Functions		
A2.F.IF.A.2	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*	Textbook	1: Analyzing Structure	3: Characteristics of Polynomial Functions	5: Level Up: Analyzing Polynomial Functions pp. M1-269A-M1-280

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A2.F.IF.A.2	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*	MATHia Software	1: Analyzing Structure	5: Graphs of Polynomial Functions	8: Understanding Average Rate of Change of Polynomial Functions
A2.F.IF.B.3a	Graph square root, cube root, and piecewise defined functions, including step functions and absolute value functions.	Textbook	3: Inverting Functions	1: Radical Functions	1: Strike That, Invert It: Inverses of Power Functions pp. M3-7A–M3-18
					2: Such a Rad Lesson: Radical Functions pp. M3-19A–M3-40
					3: Making Waves: Transformations of Radical Functions pp. M3-41A–M3-50
		MATHia Software	3: Inverting Functions	1: Inverses of Functions	2: Paint by Numbers: Art and Transformations pp. M3-267A–M3-276
A2.F.IF.B.3b	Graph polynomial functions, identifying zeros when suitable factorizations are available and showing end behavior.	Textbook	1: Analyzing Structure	2: Composing and Decomposing Functions	1: Investigating Inverses of Functions
					2: Graphing Square Root Functions
					2: Folds, Turns, and Zeros: Transforming Function Shapes pp. M1-139A–M1-152
					3: Planting the Seeds: Exploring Cubic Functions pp. M1-153A–M1-166
		3: Characteristics of Polynomial Functions	4: The Zero's the Hero: Decomposing Cubic Functions pp. M1-167A–M1-182		
			1: So Odd, I Can't Even: Power Functions pp. M1-195A–M1-208		
3: Inverting Functions	4: Applications of Growth Modeling	4: Function Construction: Building Cubic and Quartic Functions pp. M1-249A–M1-268			
A2.F.IF.B.3c	Graph exponential and logarithmic functions, showing intercepts and end behavior.	Textbook	3: Inverting Functions	2: Exponential and Logarithmic Functions	2: Paint by Numbers: Art and Transformations pp. M3-267A–M3-276
					2: Pert and Nert: Properties of Exponential Graphs pp. M3-107A–M3-124
					3: Return of the Inverse: Logarithmic Functions pp. M3-125A–M3-136

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.F.IF.B.3c	Graph exponential and logarithmic functions, showing intercepts and end behavior.	Textbook	3: Inverting Functions	4: Applications of Growth Modeling	2: Paint by Numbers: Art and Transformations pp. M3-267A–M3-276
		MATHia Software	3: Inverting Functions	4: Exponential and Logarithmic Functions	1: Properties of Exponential Graphs 2: Introduction to Logarithmic Functions
A2.F.IF.B.4	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	1: Patterns: They're Grrrrrowing!: Observing Patterns pp. M1-7A–M1-16
					2: The Cat's Out of the Bag!: Generating Algebraic Expressions pp. M1-17A–M1-30
					3: Samesies: Comparing Multiple Representations of Functions pp. M1-31A–M1-50
A2.F.IF.B.4a	Know and use the properties of exponents to interpret expressions for exponential functions.	Textbook	3: Inverting Functions	2: Exponential and Logarithmic Functions	1: Half-Life: Comparing Linear and Exponential Functions pp. M3-93A–M3-106
A2.F.IF.B.5	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	3: Samesies: Comparing Multiple Representations of Functions pp. M1-31A–M1-50
				3: Characteristics of Polynomial Functions	6: To a Greater or Lesser Degree: Comparing Polynomial Functions pp. M1-281A–M1-296
				1: Exploring and Analyzing Patterns	4: True to Form: Forms of Quadratic Functions pp. M1-51A–M1-78
			3: Inverting Functions	1: Radical Functions	3: Making Waves: Transformations of Radical Functions pp. M3-41A–M3-50
		2: Exponential and Logarithmic Functions		2: Pert and Nert: Properties of Exponential Graphs pp. M3-107A–M3-124	
		MATHia Software	2: Developing Structural Similarities	2: Solving Polynomials	3: Comparing Polynomial Functions in Different Forms
A2.F.BF.A.1	Write a function that describes a relationship between two quantities.*	Textbook	2: Developing Structural Similarities	2: Polynomial Models	3: Modeling Gig: Modeling with Polynomial Functions and Data pp. M2-103A–M2-117
A2.F.BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	2: The Cat's Out of the Bag!: Generating Algebraic Expressions pp. M1-17A–M1-30

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.F.BF.A.1a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	Textbook	1: Analyzing Structure	1: Exploring and Analyzing Patterns	4: True to Form: Forms of Quadratic Functions pp. M1-51A-M1-78
			3: Inverting Functions	4: Applications of Growth Modeling	3: This Is the Title of This Lesson: Fractals pp. M3-277-M3-293
A2.F.BF.A.1b	Combine standard function types using arithmetic operations.	Textbook	1: Analyzing Structure	2: Composing and Decomposing Functions	1: Blame It on the Rain: Modeling with Functions pp. M1-129A-M1-138
				3: Characteristics of Polynomial Functions	4: Function Construction: Building Cubic and Quartic Functions pp. M1-249A-M1-268
		MATHia Software	4: Investigating Periodic Functions	2: Trigonometric Equations	5: Springs Eternal: The Damping Function pp. M4-131A-M4-152
A2.F.BF.A.2	Write arithmetic and geometric sequences with an explicit formula and use them to model situations.*	Textbook	3: Inverting Functions	4: Applications of Growth Modeling	1: Series Are Sums: Geometric Series pp. M3-249A-M3-266 3: This Is the Title of This Lesson: Fractals pp. M3-277-M3-293
		MATHia Software	3: Inverting Functions	6: Finite Geometric Solutions	1: Introduction to Finite Geometric Series 2: Problem Solving using Finite Geometric Series
A2.F.BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$ and $f(x+k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.	Textbook	1: Analyzing Structure	2: Composing and Decomposing Functions	2: Folds, Turns, and Zeros: Transforming Function Shapes pp. M1-139A-M1-152
				3: Characteristics of Polynomial Functions	1: So Odd, I Can't Even: Power Functions pp. M1-195A-M1-208 2: Math Class Needs a Makeover: Transformations of Polynomial Functions pp. M1-209A-M1-224
			2: Developing Structural Similarities	3: Rational Functions	2: Approaching Infinity: Transformations of Rational Functions pp. M2-145A-M2-166
			3: Inverting Functions	1: Radical Functions	3: Making Waves: Transformations of Radical Functions pp. M3-41A-M3-50

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A2.F.BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$ and $f(x+k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.	Textbook	3: Inverting Functions	2: Exponential and Logarithmic Functions	4: I Like to Move It: Transformations of Exponential and Logarithmic Functions pp. M3-137A–M3-158
			4: Investigating Periodic Functions	1: Trigonometric Relationships	4: The Sines They Are A-Changin': Transformations of Sine and Cosine Functions pp. M4-51A–M4-64
		MATHia Software	1: Analyzing Structure	2: Graphs of Functions	2: Transforming Functions
				3: Forms of Quadratic Functions	4: Quadratic Transformations
A2.F.BF.B.4	Find inverse functions.	MATHia Software	3: Inverting Functions	1: Inverses of Functions	3: Sketching Graphs of Inverses
A2.F.BF.B.4a	Find the inverse of a function when the given function is one-to-one.	Textbook	3: Inverting Functions	1: Radical Functions	2: Such a Rad Lesson: Radical Functions pp. M3-19A–M3-40
		MATHia Software		3: Inverting Functions	2: Exponential and Logarithmic Functions
A2.F.LE.A.1	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a table, a description of a relationship, or input-output pairs.	Textbook	3: Inverting Functions	3: Exponential and Logarithmic Equations	4: Calculating Inverses of Linear Functions
					5: What's the Use?: Applications of Exponential and Logarithmic Equations pp. M3-223A–M3-236
A2.F.LE.A.2	For exponential models, express as a logarithm the solution to $ab^{(ct)} = d$ where a , c , and d are numbers and the base b is 2, 10, or e ; evaluate the logarithm using technology.	Textbook	3: Inverting Functions	3: Exponential and Logarithmic Equations	3: More Than One Way to Crack an Egg: Solving Exponential Equations pp. M3-197A–M3-206
					4: Logging On: Solving Logarithmic Equations pp. M3-207A–M3-222
		MATHia Software	3: Inverting Functions	5: Solving Equations with Base 2, 10, or e	5: What's the Use?: Applications of Exponential and Logarithmic Equations pp. M3-223A–M3-236
					1: Solving Base 2 and Base 10 Equations
A2.F.LE.B.3	Interpret the parameters in a linear or exponential function in terms of a context.	Textbook	3: Inverting Functions	2: Exponential and Logarithmic Functions	2: Solving Base e Equations
					3: Solving Any Base Equations
					1: Half-Life: Comparing Linear and Exponential Functions pp. M3-93A–M3-106

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.F.TF.A.1a	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	Textbook	4: Investigating Periodic Functions	1: Trigonometric Relationships	2: The Knights of the Round Table: Radian Measure pp. M4-23–M4-34
		MATHia Software		4: Investigating Periodic Functions	2: Trigonometric Equations
A2.F.TF.A.1b	Use the unit circle to find $\sin \theta$, $\cos \theta$, and $\tan \theta$ when θ is a commonly recognized angle between 0 and 2π .	Textbook	4: Investigating Periodic Functions	1: Trigonometric Relationships	3: What Goes Around: The Sine and Cosine Functions pp. M4-35–M4-50
		MATHia Software			4: Investigating Periodic Functions
A2.F.TF.A.2	Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.	Textbook	4: Investigating Periodic Functions	1: Trigonometric Relationships	3: What Goes Around: The Sine and Cosine Functions pp. M4-35–M4-50
		MATHia Software		4: Investigating Periodic Functions	2: Trigonometric Equations
A2.F.TF.B.3a	Given a point on a circle centered at the origin, recognize and use the right triangle ratio definitions of $\sin \theta$, $\cos \theta$, and $\tan \theta$ to evaluate the trigonometric functions.	Textbook	4: Investigating Periodic Functions	1: Trigonometric Relationships	3: What Goes Around: The Sine and Cosine Functions pp. M4-35–M4-50
					4: The Sines They Are A-Changin': Transformations of Sine and Cosine Functions pp. M4-51–M4-64
					5: Farmer's Tan: The Tangent Function pp. M4-65–M4-82
A2.F.TF.B.3b	Given the quadrant of the angle, use the identity $\sin^2(\theta) + \cos^2(\theta) = 1$ to find $\sin \theta$ given $\cos \theta$, or vice versa.	Textbook	4: Investigating Periodic Functions	2: Trigonometric Equations	1: $\sin^2 \theta$ Plus $\cos^2 \theta$ Equals 1 ² : The Pythagorean Identity pp. M4-95–M4-104
		MATHia Software			4: Investigating Periodic Functions

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.S.ID.A.1	Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages using the Empirical Rule.	Textbook	5: Relating Data and Decisions	1: Interpreting Data in Normal Distributions	1: Recharge It!: Normal Distributions pp. M5-7A–M5-18
					2: The Form of Norm: The Empirical Rule for Normal Distributions pp. M5-19A–M5-32
		MATHia Software	5: Relating Data and Decisions	1: Normal Distributions	3: Above, Below, and Between the Lines: Z-Scores and Percentiles pp. M5-33A–M5-44
					1: Applying the Empirical Rule for Normal Distributions
A2.S.ID.B.2a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data.	Textbook	2: Developing Structural Similarities	2: Polynomial Models	3: Modeling Gig: Modeling with Polynomial Functions and Data pp. M2-103A–M2-117
			3: Inverting Functions	3: Exponential and Logarithmic Equations	5: What's the Use?: Applications of Exponential and Logarithmic Equations pp. M3-223A–M3-236
A2.S.IC.A.1	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	Textbook	5: Relating Data and Decisions	2: Making Inferences and Justifying Conclusions	1: Data, Data Everywhere: Sample Surveys, Observational Studies, and Experiments pp. M5-65A–M5-76
					2: Ample Sample Examples: Sampling Methods and Randomization pp. M5-77A–M5-94
					5: DIY: Designing a Study and Analyzing the Results pp. M5-127A–M5-134
A2.S.IC.A.2	Use data from a sample survey to estimate a population mean or proportion; use a given margin of error to solve a problem in context.	Textbook	5: Relating Data and Decisions	2: Making Inferences and Justifying Conclusions	3: A Vote of Confidence: Using Confidence Intervals to Estimate Unknown Population Means pp. M5-95A–M5-110
					4: How Much Different?: Using Statistical Significance to Make Inferences About Populations pp. M5-111A–M5-126
					5: DIY: Designing a Study and Analyzing the Results pp. M5-127A–M5-134

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit(MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
A2.S.CP.A.1	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").	Textbook	5: Making Informed Decisions	1: Independence and Conditional Probability	1: What Are the Chances?: Compound Sample Spaces pp. M5-7A–M5-26
A2.S.CP.A.2	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Textbook	5: Making Informed Decisions	1: Independence and Conditional Probability	2: And?: Compound Probability with And pp. M5-27A–M5-40
					4: And, Or, and More!: Calculating Compound Probability pp. M5-57A–M5-70
A2.S.CP.A.3	Know and understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.	Textbook	5: Making Informed Decisions	2: Computing Probabilities	2: It All Depends: Conditional Probability pp. M5-99A–M5-112
A2.S.CP.A.4	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.	Textbook	5: Making Informed Decisions	2: Computing Probabilities	2: It All Depends: Conditional Probability pp. M5-99A–M5-112
A2.S.CP.B.5	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A and interpret the answer in terms of the model.	Textbook	5: Making Informed Decisions	2: Computing Probabilities	2: It All Depends: Conditional Probability pp. M5-99A–M5-112
A2.S.CP.B.6	Know and apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model.	Textbook	5: Making Informed Decisions	1: Independence and Conditional Probability	3: Or?: Compound Probability with Or pp. M5-41A–M5-55
					4: And, Or, and More!: Calculating Compound Probability pp. M5-57A–M5-70