

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	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
			2: Exploring Constant Change	1: Linear Functions	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
				2: Solving Linear Equations and Inequalities	5: Making a Connection: Comparing Linear Functions in Different Forms pp. M2-73A–M2-83 2: It's Literally About Literal Equations: Literal Equations pp. M2-91A–M2-102
M.1.HS.2	Define 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: Tea and Carbon Dioxide: Modeling Using Exponential Functions pp. M3-87A–M3-96 4: BAC Is BAD News: Choosing a Function to Model BAC pp. M3-97A–M3-106
		MATHia Software	1: Searching for Patterns	1: Function Overview	1: Identifying Quantities
M.1.HS.3	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	Textbook	1: Searching for Patterns	3: Linear Regressions	1: Like a Glove: Least Square Regressions pp. M1-163A–M1-176
					2: Gotta Keep It Correlatin': Correlation pp. M1-177A–M1-191
					4: To Fit or Not To Fit? That Is The Question!: Using Residual Plots pp. M1-207A–M1-218
			2: Exploring Constant Change	2: Solving Linear Equations and Inequalities	3: Not All Statements Are Made Equal: Modeling Linear Inequalities pp. M2-121A–M2-134 4: Don't Confound Your Compounds: Solving and Graphing Compound Inequalities pp. M2-135A–M2-148
			3: Investigating Growth and Decay	2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76

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M.1.HS.4a	Interpret parts of an expression, such as terms, factors, and coefficients.	Textbook	2: Exploring Constant Change	1: Linear Functions	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
M.1.HS.4b	Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1 + r)^n$ as the product of P and a factor not depending on P .	Textbook	3: Investigating Growth and Decay	2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.5	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Textbook	2: Exploring Constant Change	1: Linear Functions	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
				2: Solving Linear Equations and Inequalities	1: Strike a Balance: Solving Linear Equations pp. M2-97A–M2-108A
					3: Not All Statements Are Made Equal: Modeling Linear Inequalities pp. M2-121A–M2-134
					4: Don't Confound Your Compounds: Solving and Graphing Compound Inequalities pp. M2-135–M2-148
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	2: To the What?: Comparing Exponential Functions pp. M3-23A–M3-34
				2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76
					2: The Horizontal Line and Powers: Interpreting Parameters in Context pp. M3-77A–M3-86
		MATHia Software	2: Exploring Constant Change	2: Linear Equations	1: Modeling Rates of Change
					2: Modeling Linear Equations Given Two Points
					3: Modeling Linear Equations Given an Initial Point
					4: Modeling Linear Equations Using Multiple Representations
			3: Investigating Growth and Decay	5: Solving Exponential Equations	1: Solving Exponential Equations Using a Graph
					2: Solving Contextual Exponential Equations Using Common Bases
					3: Solving Complex Exponential Equations Using Common Bases

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M.1.HS.6	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	Textbook	2: Exploring Constant Change	3: Systems of Equations and Inequalities	1: Double the Fun: Introduction to Systems of Equations pp. M2-157A–M2-172
					3: Throwing Shade: Graphing Inequalities in Two Variables pp. M2-187A–M2-202
				4: Functions Derived from Linear Relationships	2: Play Ball!: Absolute Value Equations and Inequalities pp. M2-247A–M2-260
			3: Investigating Growth and Decay	2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76 2: The Horizontal Line and Powers: Interpreting Parameters in Context pp. M3-77A–M3-86
M.1.HS.7	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	Textbook	2: Exploring Constant Change	2: Solving Linear Equations and Inequalities	3: Not All Statements Are Made Equal: Modeling Linear Inequalities pp. M2-131A–M2-134
				3: Systems of Equations and Inequalities	3: Throwing Shade: Graphing Inequalities in Two Variables pp. M2-187A–M2-202
					4: Working with Constraints: Systems of Linear Inequalities pp. M2-203A–M2-216
					5: Working the System: Solving Systems of Equations and Inequalities pp. M2-217A–M2-226
					6: Take It to the Max ... or Min: Linear Programming pp. M2-227A–M2-236
M.1.HS.8	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .	Textbook	2: Exploring Constant Change	2: Solving Linear Equations and Inequalities	2: It's Literally About Literal Equations: Literal Equations pp. M2-109A–M2-120

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M.1.HS.9	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	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
			2: Exploring Constant Change	1: Linear Functions	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
				3: Systems of Equations and Inequalities	1: Double the Fun: Introduction to Systems of Equations pp. M2-157A–M2-172
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
				2: Using Exponential Equations	2: The Horizontal Line and Powers: Interpreting Parameters in Context pp. M3-77A–M3-86
		MATHia Software	2: Exploring Constant Change	1: Linear Function Overview	4: Exploring Graphs of Linear Functions
M.1.HS.10	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 approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. ★	Textbook	2: Exploring Constant Change	3: Systems of Equations and Inequalities	1: Double the Fun: Introduction to Systems of Equations pp. M2-157A–M2-172
					6: Take It to the Max ... or Min: Linear Programming pp. M2-227A–M2-236
		MATHia Software	3: Investigating Growth and Decay	2: Using Exponential Equations	2: The Horizontal Line and Powers: Interpreting Parameters in Context pp. M3-77A–M3-86
			2: Exploring Constant Change	4: Systems of Linear Equations	1: Representing Systems of Linear Functions
			3: Investigating Growth and Decay	5: Solving Exponential Equations	1: Solving Exponential Equations Using a Graph

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M.1.HS.11	Graph the solutions to a linear inequality in two variables as a halfplane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	Textbook	2: Exploring Constant Change	3: Systems of Equations and Inequalities	3: Throwing Shade: Graphing Inequalities in Two Variables pp. M2-187A–M2-202
					4: Working with Constraints: Systems of Linear Inequalities pp. M2-203A–M2-216
					5: Working the System: Solving Systems of Equations and Inequalities pp. M2-217A–M2-226
					6: Take It to the Max ... or Min: Linear Programming pp. M2-227A–M2-236
		MATHia Software	2: Exploring Constant Change	5: Linear Inequalities in Two Variables	1: Graphing Linear Inequalities
					2: Systems of Linear Inequalities
M.1.HS.12	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.	MATHia Software	1: Searching for Patterns	1: Function Overview	2: Introduction to Function Families
			2: Exploring Constant Change	1: Linear Function Overview	2: Understanding Linear Functions
					4: Exploring Graphs of Linear Functions
		Textbook	1: Searching for Patterns	1: Quantities and Relationships	5: Identifying Key Characteristics of Graphs of Functions
					1: A Picture Is Worth a Thousand Words: Understanding Quantities and Their Relationships pp. M1-7A–M1-20
			2: Exploring Constant Change	1: Linear Functions	3: G of X: Recognizing Functions and Function Families pp. M1-39A–M1-60
M.1.HS.13	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	Textbook	2: Exploring Constant Change	1: Linear Functions	1: Connecting the Dots: Making Connections Between Arithmetic Sequences and Linear Functions pp. M2-7A–M2-22
				3: Systems of Equations and Inequalities	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
		MATHia Software	2: Exploring Constant Change	1: Linear Function Overview	6: Take It to the Max ... or Min: Linear Programming pp. M2-227A–M2-236
					3: Evaluating Linear Functions

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M.1.HS.14	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.	Textbook	1: Searching for Patterns	2: Sequences	1: Is There a Pattern Here?: Recognizing Patterns and Sequences
			2: Exploring Constant Change	1: Linear Functions	1: Connecting the Dots: Making Connections Between Arithmetic Sequences and Linear Functions pp. M2-7A–M2-22
		MATHia Software	1: Searching for Patterns	2: Sequences	1: Describing Patterns in Sequences
			2: Exploring Constant Change	1: Linear Function Overview	2: Writing Recursive Formulas
			3: Investigating Growth and Decay	1: Exponential Functions	1: Writing Sequences as Linear Functions
M.1.HS.15	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. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. ★	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
					2: A Sort of Sorts: Analyzing and Sorting Graphs pp. M1-21A–M1-38
					3: G of X: Recognizing Functions and Function Families pp. M1-39A–M1-60
					4: Function Families for 800, Alex: Recognizing Functions by Characteristics pp. M1-61A–M1-72
			2: Exploring Constant Change	1: Linear Functions	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
					3: Move It!: Transforming Linear Functions pp. M2-41A–M2-60
M.1.HS.16	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. ★	Textbook	1: Searching for Patterns	1: Quantities and Relationships	3: G of X: Recognizing Functions and Function Families pp. M1-39A–M1-60
				2: Sequences	1: Is There a Pattern Here?: Recognizing Patterns and Sequences pp. M1-83A–M1-98
		MATHia Software	3: Investigating Growth and Decay	1: Exponential Functions	3: Relating the Domain to Exponential Functions

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M.1.HS.17	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	2: Exploring Constant Change	1: Linear Functions	1: Connecting the Dots: Making Connections Between Arithmetic Sequences and Linear Functions pp. M2-7A–M2-22
			3: Investigating Growth and Decay	2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76
		MATHia Software	2: Exploring Constant Change	1: Linear Function Overview	2: Understanding Linear Functions
			3: Investigating Growth and Decay	1: Exponential Functions	5: Calculating and Interpreting Average Rate of Change
M.1.HS.18a	Graph linear and quadratic functions and show intercepts, maxima, and minima.	Textbook	2: Exploring Constant Change	1: Linear Functions	3: Move It!: Transforming Linear Functions pp. M2-41A–M2-60
				3: Systems of Equations and Inequalities	1: Double the Fun: Introduction to Systems of Equations pp. M2-157A–M2-172
M.1.HS.18b	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	Textbook	3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
					3: My A, B, C, Ds: Transformations of Exponential Functions pp. M3-35A–M3-57
M.1.HS.19	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	Textbook	2: Exploring Constant Change	1: Linear Functions	5: Making a Connection: Comparing Linear Functions in Different Forms pp. M2-73A–M2-83
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	2: To the What?: Comparing Exponential Functions pp. M3-23A–M3-34
		MATHia Software	2: Exploring Constant Change	1: Linear Function Overview	6: Comparing Linear Functions in Different Forms
			3: Investigating Growth and Decay	1: Exponential Functions	6: Comparing Exponential Functions in Different Forms

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.20a	Determine an explicit expression, a recursive process, or steps for calculation from a context.	Textbook	1: Searching for Patterns	2: Sequences	1: Is There a Pattern Here?: Recognizing Patterns and Sequences pp. M1-83A–M1-98
					3: Did You Mean: Recursion?: Determining Recursive and Explicit Expressions from Contexts pp. M1-131–M1-142
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
					2: To the What?: Comparing Exponential Functions pp. M3-23A–M3-34
		MATHia Software	1: Searching for Patterns	2: Sequences	2: Writing Recursive Formulas 3: Writing Explicit Formulas
M.1.HS.20b	Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.	Textbook	3: Investigating Growth and Decay	2: Using Exponential Equations	2: The Horizontal Line and Powers: Interpreting Parameters in Context pp. M3-77A–M3-86
M.1.HS.21	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. ★	Textbook	1: Searching for Patterns	2: Sequences	2: The Password Is: Operations: Arithmetic and Geometric Sequences pp. M1-99A–M1-130
					4: 3 Pegs, N Discs: Modeling Using Sequences pp. M1-143A–M1-154

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M.1.HS.22	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 (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. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	Textbook	2: Exploring Constant Change	1: Linear Functions	2: Fun with Functions, Linear Ones: Making Sense of Different Representations of a Linear Function pp. M2-23A–M2-40
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	3: Move It!: Transforming Linear Functions pp. M2-41A–M2-60
		MATHia Software	2: Exploring Constant Change	1: Linear Function Overview	4: Exploring Graphs of Linear Functions
			3: Investigating Growth and Decay	3: Linear and Exponential Transformations	1: Introduction to Transforming Exponential Functions
					2: Shifting Vertically
					3: Reflecting and Dilating using Graphs
					4: Shifting Horizontally
					5: Transforming using Tables of Values
					6: Using Multiple Transformations
M.1.HS.23a	Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.	Textbook	2: Exploring Constant Change	1: Linear Functions	1: Connecting the Dots: Making Connections Between Arithmetic Sequences and Linear Functions pp. M2-7A–M2-22
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
M.1.HS.23b	Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	Textbook	2: Exploring Constant Change	1: Linear Functions	1: Connecting the Dots: Making Connections Between Arithmetic Sequences and Linear Functions pp. M2-7A–M2-22
		MATHia Software	3: Investigating Growth and Decay	4: Comparing Linear and Exponential Models	1: Recognizing Linear and Exponential Models
M.1.HS.23c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Textbook	3: Investigating Growth and Decay	2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76
		MATHia Software	3: Investigating Growth and Decay	4: Comparing Linear and Exponential Models	1: Recognizing Linear and Exponential Models 2: Recognizing Growth and Decay

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M.1.HS.24	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	Textbook	2: Exploring Constant Change	1: Linear Functions	1: Connecting the Dots: Making Connections Between Arithmetic Sequences and Linear Functions pp. M2-7A–M2-22
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
					2: To the What?: Comparing Exponential Functions pp. M3-23A–M3-34
M.1.HS.25	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	Textbook	3: Investigating Growth and Decay	2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76
M.1.HS.26	Interpret the parameters in a linear or exponential function in terms of a context.	Textbook	3: Investigating Growth and Decay	1: Introduction to Exponential Functions	1: Constant Ratios: Geometric Sequences and Exponential Functions pp. M3-7A–M3-22
				2: Using Exponential Equations	1: Downtown and Uptown: Exponential Equations for Growth and Decay pp. M3-67A–M3-76
					2: The Horizontal Line and Powers: Interpreting Parameters in Context pp. M3-77A–M3-86
M.1.HS.27	Explain each step in solving a simple 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: Exploring Constant Change	2: Solving Linear Equations and Inequalities	1: Strike a Balance: Solving Linear Equations pp. M2-97A–M2-108A

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M.1.HS.28	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	Textbook	2: Exploring Constant Change	2: Solving Linear Equations and Inequalities	1: Strike a Balance: Solving Linear Equations pp. M2-97A–M2-108A
					3: Not All Statements Are Made Equal: Modeling Linear Inequalities pp. M2-121A–M2-134
					4: Don't Confound Your Compounds: Solving and Graphing Compound Inequalities pp. M2-135A–M2-148
			3: Investigating Growth and Decay	1: Introduction to Exponential Functions	2: To the What?: Comparing Exponential Functions pp. M3-23A–M3-34
		MATHia Software	2: Exploring Constant Change	3: Linear Inequalities	1: Graphing Inequalities
					2: Solving Two-Step Linear Inequalities
M.1.HS.29	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	Textbook	2: Exploring Constant Change	3: Systems of Equations and Inequalities	2: The Elimination Round: Using Linear Combinations to Solve a System of Linear Equations pp. M2-173A–M2-186
		MATHia Software	2: Exploring Constant Change	4: Systems of Linear Equations	2: Solving Linear Systems Using Linear Combinations
M.1.HS.30	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	Textbook	2: Exploring Constant Change	3: Systems of Equations and Inequalities	1: Double the Fun: Introduction to Systems of Equations pp. M2-157A–M2-172
					2: The Elimination Round: Using Linear Combinations to Solve a System of Linear Equations pp. M2-173A–M2-186
					5: Working the System: Solving Systems of Equations and Inequalities pp. M2-217A–M2-226
		MATHia Software	2: Exploring Constant Change	4: Systems of Linear Equations	1: Representing Systems of Linear Functions
M.1.HS.31	Represent data with plots on the real number line (dot plots, histograms, and box plots).	Textbook	4: Describing Distributions	1: One-Variable Statistics	3: Solving Linear Systems Using Any Method
					1: Represent!: Graphically Representing Data pp. M4-7A–M4-16
		MATHia Software	4: Describing Distributions	1: Numerical Summary Statistics	2: A Skewed Reality: Determining the Better Measure of Center and Spread for a Data Set pp. M4-17A–M4-34
					3: Daring to Compare: Comparing Data Sets pp. M4-35A–M4-44
					3: Comparing and Interpreting Measures of Center

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M.1.HS.32	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	Textbook	4: Describing Distributions	1: One-Variable Statistics	1: Represent!: Graphically Representing Data pp. M4-7A–M4-16
					2: A Skewed Reality: Determining the Better Measure of Center and Spread for a Data Set pp. M4-17A–M4-34
					3: Daring to Compare: Comparing Data Sets pp. M4-35A–M4-44
		MATHia Software	4: Describing Distributions	1: Numerical Summary Statistics	1: Determining Appropriate Measures
					3: Comparing and Interpreting Measures of Center
					4: Calculating Standard Deviation
M.1.HS.33	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Textbook	4: Describing Distributions	1: One-Variable Statistics	2: A Skewed Reality: Determining the Better Measure of Center and Spread for a Data Set pp. M4-17A–M4-34
					3: Daring to Compare: Comparing Data Sets pp. M4-35A–M4-44
		MATHia Software	4: Describing Distributions	1: Numerical Summary Statistics	3: Comparing and Interpreting Measures of Center
					2: Measuring the Effects of Changing Data Sets
M.1.HS.34	Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	Textbook	4: Describing Distributions	2: Two-Variable Categorical Data	1: It Takes Two: Creating and Interpreting Frequency Distributions pp. M4-55A–M4-71
					2: Relatively Speaking: Relative Frequency Distribution pp. M4-73A–M4-83
					3: On One Condition ... or More: Conditional Relative Frequency Distribution pp. M4-85A–M4-94
					4: Data Jam: Drawing Conclusions from Data pp. M4-95A–M4-104
		MATHia Software	4: Describing Distributions	2: Categorical Data	1: Using Marginal Frequency Distributions
					2: Creating Marginal Frequency Distributions
					3: Using Marginal Relative Frequency Distributions
					4: Creating Marginal Relative Frequency Distributions
					5: Creating Conditional Relative Frequency Distributions
					6: Using Conditional Relative Frequency Distributions

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M.1.HS.35	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	Textbook	4: Describing Distributions	3: Linear Regressions	1: Like a Glove: Least Square Regressions pp. M1-163A–M1-176
M.1.HS.35a	Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.	Textbook	1: Searching for Patterns	3: Linear Regressions	1: Like a Glove: Least Square Regressions pp. M1-163A–M1-176
					2: Gotta Keep It Correlatin': Correlation pp. M1-133A–M1-191
					3: The Residual Effect: Creating Residual Plots pp. M1-193A–M1-206
					4: To Fit or Not To Fit? That Is The Question!: Using Residual Plots pp. M1-207A–M1-218
		MATHia Software	3: Investigating Growth and Decay	2: Using Exponential Equations	3: Tea and Carbon Dioxide: Modeling Using Exponential Functions pp. M3-87A–M3-96
					4: BAC Is BAD News: Choosing a Function to Model BAC pp. M3-97A–M3-106
M.1.HS.35b	Informally assess the fit of a function by plotting and analyzing residuals.	Textbook	1: Searching for Patterns	3: Linear Regressions	1: Exploring Linear Regression
					2: Using Linear Regression
					1: Like a Glove: Least Square Regressions pp. M1-163A–M1-176
M.1.HS.35c	Fit a linear function for a scatter plot that suggests a linear association.	Textbook	1: Searching for Patterns	3: Linear Regressions	2: Gotta Keep It Correlatin': Correlation pp. M1-133A–M1-191
					3: The Residual Effect: Creating Residual Plots pp. M1-193A–M1-206
					4: To Fit or Not To Fit? That Is The Question!: Using Residual Plots pp. M1-207A–M1-218
M.1.HS.36	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	Textbook	1: Searching for Patterns	3: Linear Regressions	4: Analyzing Residuals of Lines of Best Fit
					1: Like a Glove: Least Square Regressions pp. M1-163A–M1-176
					1: Exploring Linear Regression
M.1.HS.36	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	MATHia Software	1: Searching for Patterns	3: Linear Regression	1: Like a Glove: Least Square Regressions pp. M1-163A–M1-176
					1: Exploring Linear Regression
					3: Interpreting Lines of Best Fit

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.37	Compute (using technology) and interpret the correlation coefficient of a linear fit.	Textbook	1: Searching for Patterns	3: Linear Regressions	2: Gotta Keep It Correlatin': Correlation pp. M1-133A-M1-191
		MATHia Software	1: Searching for Patterns	3: Linear Regression	3: Interpreting Lines of Best Fit
M.1.HS.38	Distinguish between correlation and causation.	Textbook	1: Searching for Patterns	3: Linear Regressions	2: Gotta Keep It Correlatin': Correlation pp. M1-133A-M1-191
M.1.HS.39	Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.	Textbook	5: Analyzing Geometric Functions	1: Constructions	1: Construction Ahead: Constructing a Square pp. M5-7A-M524
				2: Rigid Motions on a Plane	1: Put Your Input In, Take Your Output Out: Geometric Components of Rigid Motions pp. M5-53A-M5-66
		MATHia Software	5: Analyzing Geometric Functions	1: Lines, Rays, Segments, and Angles	1: Naming Lines, Rays, Segments, and Angles
					2: Working with Measures of Segments and Angles
M.1.HS.40	Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).	Textbook	5: Analyzing Geometric Functions	2: Rigid Motions on a Plane	2: Bow Thai: Translations as Functions pp. M5-67A-M5-78
					3: Staring Back at Me: Reflections as Functions pp. M5-79A-M5-92
					4: Turn Yourself Around: Rotations as Functions pp. M5-93A-M5-106
M.1.HS.41	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	Textbook	5: Analyzing Geometric Functions	2: Rigid Motions on a Plane	5: OKEECHOBEE: Reflectional and Rotational Symmetry pp. M5-107A-M5-116
		MATHia Software	5: Analyzing Geometric Functions	2: Rigid Motion	2: Rotations and Reflections on the Plane
M.1.HS.42	Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.	Textbook	5: Analyzing Geometric Functions	2: Rigid Motions on a Plane	1: Put Your Input In, Take Your Output Out: Geometric Components of Rigid Motions pp. M5-53A-M5-66
					2: Bow Thai: Translations as Functions pp. M5-67A-M5-78
					3: Staring Back at Me: Reflections as Functions pp. M5-79A-M5-92
					4: Turn Yourself Around: Rotations as Functions pp. M5-93A-M5-106
		MATHia Software	5: Analyzing Geometric Functions	2: Rigid Motion	1: Developing Definitions of Rigid Motions

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.43	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	Textbook	5: Analyzing Geometric Functions	2: Rigid Motions on a Plane	3: Staring Back at Me: Reflections as Functions pp. M5-79A–M5-92
		MATHia Software	5: Analyzing Geometric Functions	2: Rigid Motion	4: Turn Yourself Around: Rotations as Functions pp. M5-93A–M5-106
M.1.HS.44	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	Textbook	5: Analyzing Geometric Functions	2: Rigid Motions on a Plane	1: Put Your Input In, Take Your Output Out: Geometric Components of Rigid Motions pp. M5-53A–M5-66
				3: Congruence Through Transformations	3: I Never Forget a Face: Using Triangle Congruence to Solve Problems pp. M5-159–M5-170
M.1.HS.45	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.	Textbook	5: Analyzing Geometric Functions	3: Congruence Through Transformations	2: ASA, SAS, and SSS: Proving Triangle Congruence Theorems pp. M5-143–M5-169
		MATHia Software	5: Analyzing Geometric Functions	3: Triangle Congruence	1: Introduction to Triangle Congruence
M.1.HS.46	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	Textbook	5: Analyzing Geometric Functions	3: Congruence Through Transformations	2: ASA, SAS, and SSS: Proving Triangle Congruence Theorems pp. M5-143–M5-169
		MATHia Software	5: Analyzing Geometric Functions	3: Triangle Congruence	1: Introduction to Triangle Congruence
M.1.HS.47	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.	Textbook	5: Analyzing Geometric Functions	1: Constructions	1: Construction Ahead: Constructing a Square pp. M5-7A–M524
					2: Copycats: Constructing a Regular Hexagon Inscribed in a Circle pp. M5-25–M5-32
					3: A Regular Triangle: Constructing an Equilateral Triangle pp. M5-33–M5-40

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.48	Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.	Textbook	5: Analyzing Geometric Functions	1: Constructions	1: Construction Ahead: Constructing a Square pp. M5-7A–M5-24
					2: Copycats: Constructing a Regular Hexagon Inscribed in a Circle pp. M5-25–M5-32
					3: A Regular Triangle: Constructing an Equilateral Triangle pp. M5-33–M5-40
M.1.HS.49	Use coordinates to prove simple geometric theorems algebraically. For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point $(1, \sqrt{3})$ lies on the circle centered at the origin and containing the point $(0, 2)$.	Textbook	2: Exploring Constant Change	4: Shapes on a Coordinate Plane	1: The Shape of Things: Classifying Shapes on the Coordinate Plane pp. M2-247A–M2-266
M.1.HS.50	Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	Textbook	2: Exploring Constant Change	1: Linear Functions	3: Move It!: Transforming Linear Functions pp. M2-41A–M2-60
					4: Amirite?: Determining Slopes of Perpendicular Lines pp. M2-61A–M2-72
					5: Making a Connection: Comparing Linear Functions in Different Forms pp. M2-73A–M2-83
				4: Shapes on a Coordinate Plane	1: The Shape of Things: Classifying Shapes on the Coordinate Plane pp. M2-247A–M2-266
					2: Know It Inside Out: Area and Perimeter of Triangles and Rectangles on the Coordinate Plane pp. M2-267A–M2-286
		MATHia Software	2: Exploring Constant Change	2: Parallel and Perpendicular Lines	1: Introduction to Parallel and Perpendicular Lines 2: Modeling Parallel and Perpendicular Lines

Standard ID	Description	Location	Module	Topic (Textbook) / Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
M.1.HS.51	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. ★	Textbook	2: Exploring Constant Change	4: Shapes on a Coordinate Plane	2: Know It Inside Out: Area and Perimeter of Triangles and Rectangles on the Coordinate Plane pp. M2-267A–M2-286
					3: In All Shapes and Sizes: Area and Perimeter of Polygons on the Coordinate Plane pp. M2-287A–M2-300
		MATHia Software	2: Exploring Constant Change	7: Distances on the Coordinate Plane	1: Deriving the Distance Formula
					2: Calculating Distances using the Distance Formula
					3: Calculating Perimeter and Area Using the Distance Formula