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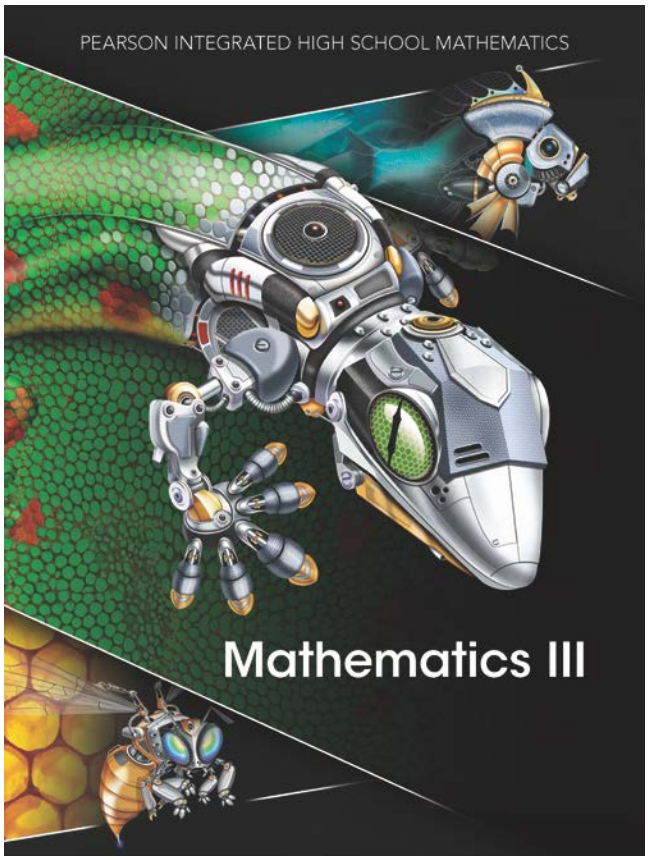

TO THE

Common Core State Standards for Mathematics Integrated Pathway: Mathematics III

ALWAYS LEARNING PEARSON

A Correlation of Pearson Integrated High School Mathematics - Mathematics III to the Common Core State Standards for Mathematics – Integrated Pathway: Mathematics III

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Clusters with Instructional Notes	Common Core State Standards for Mathematics, Integrated Pathway: Mathematics III	Pearson Integrated High School Mathematics - Mathematics III Chapters-Lessons
Unit 1: Inferences and Conclusions from Data		
Summarize, represent, and interpret data on a single count or measurement variable. *While students may have heard of the normal distribution, it is unlikely that they will have prior experience using it to make specific estimates. Build on students' understanding of data distributions to help them see how the normal distribution uses area to make estimates of frequencies (which can be expressed as probabilities). Emphasize that only some data are well described by a normal distribution.*	S.ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.	1-4: Normal Distributions For an additional opportunity to introduce this standard, please see: 1-2: LESSON LAB 1-2: An Introduction to Summation Notation
Understand and evaluate random processes underlying statistical experiments. *For S.IC.2, include comparing theoretical and empirical results to evaluate the effectiveness of a treatment.*	S.IC.1 Understand that statistics allows inferences to be made about population parameters based on a random sample from that population.	1-3: Samples and Surveys
	S.IC.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.	1-4: ACTIVITY LAB 1-4a: Probability Distributions

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Make inferences and justify conclusions from sample surveys, experiments, and observational studies. *In earlier grades, students are introduced to different ways of collecting data and use graphical displays and summary statistics to make comparisons., These ideas are revisited with a focus on how the way in which data is collected determines the scope and nature of the conclusions that can be drawn from that data. The concept of statistical significance is developed informally through simulation as meaning a result that is unlikely to have occurred solely as a result of random selection in sampling or random assignment in an experiment.* *For S.IC.4 and 5, focus on the variability of results from experiments—that is, focus on statistics as a way of dealing with, not eliminating, inherent randomness.*	S.IC.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.	1-3: Samples and Surveys
	S.IC.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.	1-4: ACTIVITY LAB 1-4b: Margin of Error
	S.IC.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.	1-4: ACTIVITY LAB 1-4c: Drawing Conclusions From Samples
	S.IC.6 Evaluate reports based on data.	1-1: Analyzing Data 1-2: Standard Deviation 1-3: Samples and Surveys

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Use probability to evaluate outcomes of decisions. *Extend to more complex probability models. Include situations such as those involving quality control or diagnostic tests that yields both false positive and false negative results.*	S.MD.6 Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	1-4: ACTIVITY LAB 1-4a: Probability Distributions
	S.MD.7 Analyze decisions and strategies using probability concepts (e.g., product testing, medical testing, pulling a hockey goalie at the end of a game).	1-4: Normal Distributions
Unit 2: Polynomials, Rational, and Radical Relationships		
Use complex numbers in polynomial identities and equations. *Build on work with quadratics equations in Mathematics II. Limit to polynomials with real coefficients.*	N.CN.8 Extend polynomial identities to the complex numbers.	4-6: Theorems About Roots of Polynomial Equations 4-6: LESSON LAB 4-6: Using Polynomial Identities 4-7: The Fundamental Theorem of Algebra
	N.CN.9 Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.	4-7: The Fundamental Theorem of Algebra

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Interpret the structure of expressions. *Extend to polynomial and rational expressions.*	A.SSE.1 Interpret expressions that represent a quantity in terms of its context. ★	4-3: Polynomials, Linear Factors, and Zeros
	a. Interpret parts of an expression, such as terms, factors, and coefficients.	3-3: Factoring Quadratic Expressions 3-4: Quadratic Equations 4-1: Polynomial Functions 4-3: Polynomials, Linear Factors, and Zeros
	b. Interpret complicated expressions by viewing one or more of their parts as a single entity.	4-4: Solving Polynomial Equations 5-1: Simplifying Rational Expressions 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 7-1: Exploring Exponential Models 7-2: Properties of Exponential Functions 7-3: Logarithmic Functions as Inverses

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(Continued) Interpret the structure of expressions. *Extend to polynomial and rational expressions.*	A.SSE.2 Use the structure of an expression to identify ways to rewrite it.	3-3: Factoring Quadratic Expressions 3-5: Completing the Square 4-2: Adding, Subtracting, and Multiplying Polynomials 4-3: Polynomials, Linear Factors, and Zeros 4-4: Solving Polynomial Equations 4-6: Theorems About Roots of Polynomial Equations 4-6: LESSON LAB 4-6: Using Polynomial Identities 4-7: The Fundamental Theorem of Algebra 4-8: The Binomial Theorem 5-1: Simplifying Rational Expressions 5-2: Multiplying and Dividing Rational Expressions 5-3: Adding and Subtracting Rational Expressions 5-6: Rational Functions and Their Graphs 5-6: TECHNOLOGY LAB 5-6: Oblique Asymptotes 5-7: Solving Rational Equations 6-1: Roots and Radical Expressions 6-2: Multiplying and Dividing Radical Expressions 6-3: Binomial Radical Expressions 6-4: Rational Exponents 7-4: Properties of Logarithms
Write expressions in equivalent forms to solve problems. *Consider extending A.SSE.4 to infinite geometric series in curricular implementations of this course description.*	A.SSE.4 Derive the formula for the sum of a geometric series (when the common ratio is not 1), and use the formula to solve problems. ★	9-5: ACTIVITY LAB 9-5: Geometry and Infinite Series 9-5: Geometric Series

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Perform arithmetic operations on polynomials. *Extend beyond the quadratic polynomials found in Mathematics II.*	A.APR.1 Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	4-2: Adding, Subtracting, and Multiplying Polynomials
Understand the relationship between zeros and factors of polynomials.	A.APR.2 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 $p(x)$.	4-3: Polynomials, Linear Factors, and Zeros 4-5: Dividing Polynomials
	A.APR.3 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.	3-4: Quadratic Equations 4-3: Polynomials, Linear Factors, and Zeros 4-6: Theorems About Roots of Polynomial Equations 4-7: The Fundamental Theorem of Algebra 4-7: ACTIVITY LAB 4-7: Graphing Polynomials Using Zeros
Use polynomial identities to solve problems. *This cluster has many possibilities for optional enrichment, such as relating the example in A.APR.4 to the solution of the system u2+v2=1, v = t(u+1), relating the Pascal triangle property of binomial coefficients to (x+y)n+1 = (x+y)(x+y)n, deriving explicit formulas for the coefficients, or proving the binomial theorem by induction.*	A.APR.4 Prove polynomial identities and use them to describe numerical relationships.	4-6: LESSON LAB 4-6: Using Polynomial Identities 4-8: LESSON LAB 4-8: Mathematical Induction
	A.APR.5 Know and apply the Binomial Theorem for the expansion of $(x + y)n$ in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.	4-8: The Binomial Theorem 4-8: LESSON LAB 4-8: Mathematical Induction

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Rewrite rational expressions *The limitations on rational functions apply to the rational expressions in A.APR.6. A.APR.7 requires the genera division algorithm for polynomials.*	A.APR.6 Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.	4-5: Dividing Polynomials 5-1: Simplifying Rational Expressions
	A.APR.7 Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.	5-2: Multiplying and Dividing Rational Expressions 5-3: Adding and Subtracting Rational Expressions
Understand solving equations as a process of reasoning and explain the reasoning. *Extend to simple rational and radical equations.*	A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	5-7: Solving Rational Equations 6-5: Solving Square Root and Other Radical Equations
Represent and solve equations and inequalities graphically. *Include combinations of linear, polynomial, rational, radical, absolute value, and exponential functions.*	A.REI.11 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. ★	3-7: Quadratic Systems 4-4: Solving Polynomial Equations 5-7: Solving Rational Equations 5-7: ACTIVITY LAB 5-7a: Systems With Rational Equations 6-5: Solving Square Root and Other Radical Equations 7-5: Exponential and Logarithmic Equations 7-6: LESSON LAB 7-6: Exponential and Logarithmic Inequalities

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Analyze functions using different representations. *Relate F.IF.7c to the relationship between zeros of quadratic functions and their factored forms.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★	2-3: Linear Functions and Slope-Intercept Form 2-4: Families of Functions 2-5: Absolute Value Functions and Graphs 2-5: LESSON LAB 2-5: Piecewise Functions 3-1: Quadratic Functions and Transformations 3-2: Standard Form of a Quadratic Function 4-1: Polynomial Functions 4-3: Polynomials, Linear Factors, and Zeros 4-9: Polynomial Models in the Real World 5-4: Inverse Variation 5-5: TECHNOLOGY LAB 5-5: Graphing Rational Functions 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-1: Exploring Exponential Models 7-2: Properties of Exponential Functions 7-3: Logarithmic Functions as Inverses 7-5: Exponential and Logarithmic Equations 8-4: The Sine Function 8-4: TECHNOLOGY LAB 8-4: Graphing Trigonometric Functions 8-5: The Cosine Function 8-6: The Tangent Function 8-7: Translating Sine and Cosine Functions 8-8: Reciprocal Trigonometric Functions

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(Continued) Analyze functions using different representations. Relate F.IF.7c to the relationship between zeros of quadratic functions and their factored forms.	c. Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.	4-1: Polynomial Functions 4-3: Polynomials, Linear Factors, and Zeros 4-7: ACTIVITY LAB 4-7: Graphing Polynomials Using Zeros 4-9: Polynomial Models in the Real World 4-10: Transforming Polynomial Functions
Unit 3: Trigonometry of General Triangles and Trigonometric Functions		
Apply trigonometry to general triangles. *With respect to the general case of the Laws of Sines and Cosines, the definitions of sine and cosine must be extended to obtuse angles.*	G.SRT.9 Derive the formula $A = 1/2\ ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	8-10: Area and the Law of Sines
	G.SRT.10 Prove the Laws of Sines and Cosines and use them to solve problems.	8-10: Area and the Law of Sines 8-11: The Law of Cosines
	G.SRT.11 Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	8-10: Area and the Law of Sines 8-10: LESSON LAB 8-10: The Ambiguous Case 8-11: The Law of Cosines

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Extend the domain of trigonometric functions using the unit circle.	F.TF.1 Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	8-3: Radian Measure For an additional opportunity to introduce this standard, please see: 8-2: Angles and the Unit Circle
	F.TF.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.	8-4: The Sine Function 8-5: The Cosine Function 8-6: The Tangent Function 8-8: Reciprocal Trigonometric Functions For an additional opportunity to introduce this standard, please see: 8-2: Angles and the Unit Circle 8-3: Radian Measure
Model periodic phenomena with trigonometric functions.	F.TF.5 Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline. ★	8-4: The Sine Function 8-5: The Cosine Function 8-6: The Tangent Function 8-7: Translating Sine and Cosine Functions 8-8: Reciprocal Trigonometric Functions

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Unit 4: Mathematical Modeling		
Create equations that describe numbers or relationships. For A.CED.1, use all available types of functions to create such equations, including root functions, but constrain to simple cases. While functions used in A.CED.2, 3, and 4 will often be linear, exponential, or quadratic the types of problems should draw from more complex situations than those addressed in Mathematics I. For example, finding the equation of a line through a given point perpendicular to another line allows one to find the distance from a point to a line. Note that the example given for A.CED.4 applies to earlier instances of this standard, not to the current course.	A.CED.1 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.*	2-1: Solving Equations 2-2: Solving Inequalities 3-4: Quadratic Equations 3-5: Completing the Square 3-6: The Quadratic Formula 5-7: Solving Rational Equations 5-7: TECHNOLOGY LAB 5-7b: Rational Inequalities 6-5: Solving Square Root and Other Radical Equations 7-5: Exponential and Logarithmic Equations 7-6: LESSON LAB 7-6: Exponential and Logarithmic Inequalities
	A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	2-3: Linear Functions and Slope-Intercept Form 2-7: Solving Systems of Equations 3-1: Quadratic Functions and Transformations 3-2: Standard Form of a Quadratic Function 4-3: Polynomials, Linear Factors, and Zeros 4-9: Polynomial Models in the Real World 5-4: Inverse Variation 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-1: Exploring Exponential Models 7-2: Properties of Exponential Functions

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(Continued) Create equations that describe numbers or relationships. For A.CED.1, use all available types of functions to create such equations, including root functions, but constrain to simple cases. While functions used in A.CED.2, 3, and 4 will often be linear, exponential, or quadratic the types of problems should draw from more complex situations than those addressed in Mathematics I. For example, finding the equation of a line through a given point perpendicular to another line allows one to find the distance from a point to a line. Note that the example given for A.CED.4 applies to earlier instances of this standard, not to the current course.	A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context.	2-6: Two-Variable Inequalities 2-7: Solving Systems of Equations 2-8: Systems of Inequalities 2-9: Systems With Three Variables 2-10: Solving Systems Using Matrices 3-7: Quadratic Systems 5-7: ACTIVITY LAB 5-7a: Systems With Rational Equations
	A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	2-1: Solving Equations 5-4: Inverse Variation 6-5: Solving Square Root and Other Radical Equations

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Interpret functions that arise in applications in terms of a context. *Emphasize the selection of a model function based on behavior of data and context*.	F.IF.4 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.* ★	2-3: Linear Functions and Slope-Intercept Form 3-1: Quadratic Functions and Transformations 3-2: Standard Form of a Quadratic Function 4-1: Polynomial Functions 4-3: Polynomials, Linear Factors, and Zeros 4-9: Polynomial Models in the Real World 5-4: Inverse Variation 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-3: Logarithmic Functions as Inverses 8-1: Exploring Periodic Data 8-4: The Sine Function 8-5: The Cosine Function 8-6: The Tangent Function 8-8: Reciprocal Trigonometric Functions
	F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. ★	4-9: Polynomial Models in the Real World 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions

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(Continued) Interpret functions that arise in applications in terms of a context. *Emphasize the selection of a model function based on behavior of data and context.*	F.IF.6 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. ★	3-1: Quadratic Functions and Transformations 3-2: Standard Form of a Quadratic Function 3-2: LESSON LAB 3-2: Identifying Quadratic Data 4-9: Polynomial Models in the Real World 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-3: Logarithmic Functions as Inverses 8-4: The Sine Function

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Analyze functions using different representations. *Focus on applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate.*	F.IF.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. ★	2-3: Linear Functions and Slope-Intercept Form 2-4: Families of Functions 2-5: Absolute Value Functions and Graphs 2-5: LESSON LAB 2-5: Piecewise Functions 3-1: Quadratic Functions and Transformations 3-2: Standard Form of a Quadratic Function 4-1: Polynomial Functions 4-3: Polynomials, Linear Factors, and Zeros 4-9: Polynomial Models in the Real World 5-4: Inverse Variation 5-5: TECHNOLOGY LAB 5-5: Graphing Rational Functions 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-1: Exploring Exponential Models 7-2: Properties of Exponential Functions 7-3: Logarithmic Functions as Inverses 7-5: Exponential and Logarithmic Equations 8-4: The Sine Function 8-4: TECHNOLOGY LAB 8-4: Graphing Trigonometric Functions 8-5: The Cosine Function 8-6: The Tangent Function 8-7: Translating Sine and Cosine Functions 8-8: Reciprocal Trigonometric Functions

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(Continued) Analyze functions using different representations. *Focus on applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate.*	b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	2-5: Absolute Value Functions and Graphs 2-5: LESSON LAB 2-5: Piecewise Functions 6-8: Graphing Radical Functions
	e. Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	7-1: Exploring Exponential Models 7-2: Properties of Exponential Functions 7-3: Logarithmic Functions as Inverses 7-5: Exponential and Logarithmic Equations 7-5: TECHNOLOGY LAB 7-5: Using Logarithms for Exponential Models 8-4: The Sine Function 8-5: The Cosine Function 8-6: The Tangent Function 8-7: Translating Sine and Cosine Functions 8-8: Reciprocal Trigonometric Functions

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(Continued) Analyze functions using different representations. *Focus on applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate.*	F.IF.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.	3-2: Standard Form of a Quadratic Function 3-5: Completing the Square 4-10: Transforming Polynomial Functions 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-1: Exploring Exponential Models 7-2: Properties of Exponential Functions 7-3: Logarithmic Functions as Inverses 7-4: Properties of Logarithms 7-5: TECHNOLOGY LAB 7-5: Using Logarithms for Exponential Models
	F.IF.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).	3-2: Standard Form of a Quadratic Function 4-10: Transforming Polynomial Functions 5-6: Rational Functions and Their Graphs 6-8: Graphing Radical Functions 7-3: Logarithmic Functions as Inverses 8-5: The Cosine Function

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Build a function that models a relationship between two quantities. *Develop models for more complex or sophisticated situations than in previous courses.*	F.BF.1 Write a function that describes a relationship between two quantities.	3-1: Quadratic Functions and Transformations 3-2: Standard Form of a Quadratic Function 4-3: Polynomials, Linear Factors, and Zeros 5-5: The Reciprocal Function Family 5-6: Rational Functions and Their Graphs 6-6: Function Operations 7-2: Properties of Exponential Functions
	b. Combine standard function types using arithmetic operations.	5-6: Rational Functions and Their Graphs 6-6: Function Operations
Build new functions from existing functions. *Use transformations of functions to find more optimum models as students consider increasingly more complex situations.* *For F.BF.3, note the effect of multiple transformations on a single function and the common effect of each transformation across function types. Include functions defined only by a graph.* *Extend F.BF.4a to simple rational, simple radical, and simple exponential functions; connect F.BF.4a to F.LE.4.*	F.BF.3 Identify the effect on the graph of replacing *f(x)* by *f(x) + k*, *k f(x)*, *f(kx)*, and *f(x + k)* for specific values of *k* (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.*	2-4: Families of Functions 2-5: Absolute Value Functions and Graphs 3-1: Quadratic Functions and Transformations 4-1: TECHNOLOGY LAB 4-1: Even and Odd Functions 4-10: Transforming Polynomial Functions 5-5: The Reciprocal Function Family 7-3: Logarithmic Functions as Inverses 8-7: Translating Sine and Cosine Functions
	F.BF.4 Find inverse functions.	6-7: Inverse Relations and Functions 6-8: Graphing Radical Functions 7-3: Logarithmic Functions as Inverses
	a. Solve an equation of the form *f(x) = c* for a simple function *f* that has an inverse and write an expression for the inverse.	6-7: Inverse Relations and Functions 7-3: Logarithmic Functions as Inverses

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Construct and compare linear, quadratic, and exponential models and solve problems. *Consider extending this unit to include the relationship between properties of logarithms and properties of exponents, such as the connection between the properties of exponents and the basic logarithm property that log xy = log x + log y.*	F.LE.4 For exponential models, express as a logarithm the solution to *a bct = d* where *a, c*, and *d* are numbers and the base *b* is 2, 10, or *e*; evaluate the logarithm using technology.	7-5: Exponential and Logarithmic Equations 7-6: Natural Logarithms
Visualize relationships between two-dimensional and three-dimensional objects.	G.GMD.4 Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.	10-5: Space Figures and Cross Sections 10-7: Locus: A Set of Points
Apply geometric concepts in modeling situations.	G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★	10-3: Perimeters and Areas of Similar Figures 10-4: Geometric Probability 10-6: Areas and Volumes of Similar Solids 11-2: Areas of Parallelograms and Triangles 11-3: Areas of Trapezoids, Rhombuses, and Kites
	G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). ★	10-2: Solving Density and Design Problems 10-3: Perimeters and Areas of Similar Figures 10-6: Areas and Volumes of Similar Solids
	G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). ★	10-2: Solving Density and Design Problems 10-3: Perimeters and Areas of Similar Figures 10-6: Areas and Volumes of Similar Solids