		Learning Target	Success Criteria
Chapter 1: Linear Functions			
Chapter Learning Target Understand linear functions. **Chapter Success Criteria** • I can identify parent functions and transformations. • I can describe transformations of parent functions. • I can model with linear functions. • I can solve linear systems.	1.1 Parent Functions and Transformations	Graph and describe transformations of functions.	• I can identify the function family to which a function belongs. • I can graph transformations of functions. • I can explain how translations, reflections, stretches, and shrinks affect graphs of functions.
	1.2 Transformations of Linear and Absolute Value Functions	Write functions that represent transformations of functions.	• I can write functions that represent transformations of linear functions. • I can write functions that represent transformations of absolute value functions.
	1.3 Modeling with Linear Functions	Use linear functions to model and analyze real-life situations.	• I can write equations of linear functions. • I can compare linear equations to solve real-life problems. • I can determine a line of best fit.
	1.4 Solving Linear Systems	Solve linear systems in three variables.	• I can visualize solutions of linear systems in three variables. • I can solve linear systems in three variables algebraically. • I can solve real-life problems using systems of equations in three variables.

		Learning Target	Success Criteria
Chapter 2: Quadratic Functions			
Chapter Learning Target Understand quadratic functions. **Chapter Success Criteria** • I can describe transformations of quadratic functions. • I can identify characteristics of quadratic functions. • I can write equations of parabolas. • I can model with quadratic functions.	2.1 Transformations of Quadratic Functions	Describe and graph transformations of quadratic functions.	• I can describe transformations of quadratic functions. • I can graph transformations of quadratic functions. • I can write functions that represent transformations of quadratic functions.
	2.2 Characteristics of Quadratic Functions	Graph and describe quadratic functions.	• I can use properties of parabolas to graph quadratic functions. • I can identify characteristics of quadratic functions and their graphs. • I can use characteristics of quadratic functions to solve real-life problems.
	2.3 Focus of a Parabola	Graph and write equations of parabolas.	• I can explain the relationships among the focus, the directrix, and the graph of a parabola. • I can graph parabolas. • I can write equations of parabolas.
	2.4 Modeling with Quadratic Functions	Write equations of quadratic functions using given characteristics.	• I can write equations of quadratic functions using vertices, points, and *x*-intercepts. • I can write quadratic equations to model data sets. • I can use technology to find a quadratic model for a set of data.

		Learning Target	Success Criteria
Chapter 3: Quadratic Equations and Complex Numbers			
Chapter Learning Target Understand quadratic equations and complex numbers. **Chapter Success Criteria** • I can perform operations with complex numbers. • I can solve quadratic equations by completing the square. • I can describe how to use the Quadratic Formula. • I can solve nonlinear systems and quadratic inequalities.	3.1 Solving Quadratic Equations	Solve quadratic equations graphically and algebraically.	• I can solve quadratic equations by graphing. • I can solve quadratic equations algebraically. • I can use quadratic equations to solve real-life problems.
	3.2 Complex Numbers	Understand the imaginary unit *i* and perform operations with complex numbers.	• I can define the imaginary unit *i* and use it to rewrite the square root of a negative number. • I can add, subtract, and multiply complex numbers. • I can find complex solutions of quadratic equations and complex zeros of quadratic functions.
	3.3 Completing the Square	Solve quadratic equations and rewrite quadratic functions by completing the square.	• I can solve quadratic equations using square roots. • I can solve quadratic equations by completing the square. • I can apply completing the square to write quadratic functions in vertex form.
	3.4 Using the Quadratic Formula	Solve and analyze quadratic equations using the Quadratic Formula and discriminants.	• I can solve quadratic equations using the Quadratic Formula. • I can find and interpret the discriminant of an equation. • I can write quadratic equations with different numbers of solutions using the discriminant.

		Learning Target	Success Criteria
Chapter 3 continued			
	3.5 Solving Nonlinear Systems of Equations	Solve nonlinear systems graphically and algebraically.	• I can describe what a nonlinear system of equations is. • I can solve nonlinear systems using graphing, substitution, or elimination. • I can solve quadratic equations by graphing each side of the equation.
	3.6 Quadratic Inequalities	Graph quadratic inequalities in two variables and solve quadratic inequalities in one variable.	• I can describe the graph of a quadratic inequality. • I can graph quadratic inequalities. • I can graph systems of quadratic inequalities. • I can solve quadratic inequalities algebraically and graphically.

		Learning Target	Success Criteria
Chapter 4: Polynomial Functions			
Chapter Learning Target Understand polynomial functions. **Chapter Success Criteria** • I can graph polynomial functions. • I can add, subtract, multiply, divide, and factor polynomials. • I can solve polynomial equations. • I can model with and analyze graphs of polynomial functions.	4.1 Graphing Polynomial Functions	Graph and describe polynomial functions.	• I can identify and evaluate polynomial functions. • I can graph polynomial functions. • I can describe end behavior of polynomial functions.
	4.2 Adding, Subtracting, and Multiplying Polynomials	Add, subtract, and multiply polynomials.	• I can add and subtract polynomials. • I can multiply polynomials and use special product patterns. • I can use Pascal's Triangle to expand binomials.
	4.3 Dividing Polynomials	Divide polynomials by other polynomials and use the Remainder Theorem.	• I can use long division to divide polynomials by other polynomials. • I can divide polynomials by binomials of the form $x - k$ using synthetic division. • I can explain the Remainder Theorem.
	4.4 Factoring Polynomials	Factor polynomials and use the Factor Theorem.	• I can find common monomial factors of polynomials. • I can factor polynomials. • I can use the Factor Theorem.
	4.5 Solving Polynomial Equations	Solve polynomial equations and find zeros of polynomial functions.	• I can explain how solutions of equations and zeros of functions are related. • I can solve polynomial equations. • I can write a polynomial function when given information about its zeros.

		Learning Target	Success Criteria
Chapter 4 continued			
	4.6 The Fundamental Theorem of Algebra	Use the Fundamental Theorem of Algebra to find all complex roots of polynomial equations.	• I can identify the degree of a polynomial. • I can explain the Fundamental Theorem of Algebra. • I can find all the zeros of a polynomial function.
	4.7 Transformations of Polynomial Functions	Describe and graph transformations of polynomial functions.	• I can describe transformations of polynomial functions. • I can graph transformations of polynomial functions. • I can write functions that represent transformations of polynomial functions.
	4.8 Analyzing Graphs of Polynomial Functions	Analyze graphs of polynomial functions.	• I can identify a turning point of a polynomial function. • I can analyze real zeros and turning points numerically. • I can explain the relationship among the degree of a polynomial function, real zeros, and turning points.
	4.9 Modeling with Polynomial Functions	Write polynomial functions.	• I can write a polynomial function given a graph or a set of points. • I can write a polynomial function using finite differences. • I can use technology to find a polynomial model for a set of data.

		Learning Target	Success Criteria
Chapter 5: Rational Exponents and Radical Functions			
Chapter Learning Target Understand rational exponents and radical functions. **Chapter Success Criteria** • I can represent roots using rational exponents. • I can describe the properties of rational exponents and radicals. • I can solve radical equations and inequalities. • I can find compositions and inverses of functions.	5.1 *n*th Roots and Rational Exponents	Evaluate expressions and solve equations containing *n*th roots and rational exponents.	• I can explain the meaning of a rational exponent. • I can evaluate expressions with rational exponents. • I can solve equations using *n*th roots.
	5.2 Properties of Rational Exponents and Radicals	Simplify radical expressions.	• I can simplify radical expressions with rational exponents. • I can explain when radical expressions are in simplest form. • I can simplify variable expressions containing rational exponents and radicals.
	5.3 Graphing Radical Functions	Describe and graph transformations of radical functions.	• I can graph radical functions. • I can describe transformations of radical functions. • I can write functions that represent transformations of radical functions.
	5.4 Solving Radical Equations and Inequalities	Solve equations and inequalities containing radicals and rational exponents.	• I can identify radical equations and inequalities. • I can solve radical equations and inequalities. • I can identify extraneous solutions of radical equations. • I can solve real-life problems involving radical equations.

		Learning Target	Success Criteria
Chapter 5 continued			
	5.5 Performing Function Operations	Perform arithmetic operations on two functions.	• I can explain what it means to perform an arithmetic operation on two functions. • I can find arithmetic combinations of two functions. • I can state the domain of an arithmetic combination of two functions. • I can evaluate an arithmetic combination of two functions for a given input.
	5.6 Composition of Functions	Evaluate and find compositions of functions.	• I can evaluate a composition of functions. • I can find a composition of functions. • I can state the domain of a composition of functions.
	5.7 Inverse of a Function	Understand the relationship between inverse functions.	• I can explain what inverse functions are. • I can find inverses of linear and nonlinear functions. • I can determine whether a pair of functions are inverses.

		Learning Target	Success Criteria
Chapter 6: Exponential and Logarithmic Functions			
Chapter Learning Target Understand exponential and logarithmic functions. **Chapter Success Criteria** • I can determine whether a function represents exponential growth or decay. • I can simplify exponential and logarithmic expressions. • I can solve exponential and logarithmic equations. • I can model exponential and logarithmic functions.	6.1 Exponential Growth and Decay Functions	Write and graph exponential growth and decay functions.	• I can identify and graph exponential growth and decay functions. • I can write exponential growth and decay functions. • I can solve real-life problems using exponential growth and decay functions.
	6.2 The Natural Base *e*	Use the natural base *e* and graph natural base functions.	• I can explain the natural base *e*. • I can simplify natural base expressions. • I can graph natural base functions. • I can solve real-life problems using exponential growth and decay functions.
	6.3 Logarithms and Logarithmic Functions	Understand logarithms and graph logarithmic functions.	• I can explain the meaning of a logarithm with base *b*. • I can evaluate logarithmic expressions. • I can graph logarithmic functions.
	6.4 Transformations of Exponential and Logarithmic Functions	Describe and graph transformations of exponential and logarithmic functions.	• I can describe transformations of exponential and logarithmic functions. • I can graph transformations of exponential and logarithmic functions. • I can write functions that represent transformations of exponential and logarithmic functions.
	6.5 Properties of Logarithms	Use properties of logarithms.	• I can evaluate logarithms. • I can expand or condense logarithmic expressions. • I can explain how to use the change-of-base formula.

		Learning Target	Success Criteria
Chapter 6 continued			
	6.6 Solving Exponential and Logarithmic Equations	Solve exponential and logarithmic equations and inequalities.	• I can solve exponential equations. • I can solve logarithmic equations. • I can solve exponential and logarithmic inequalities.
	6.7 Modeling with Exponential and Logarithmic Functions	Write exponential and logarithmic functions to model sets of data.	• I can use a common ratio to determine whether data can be represented by an exponential function. • I can write an exponential function using two points. • I can use technology to find exponential models and logarithmic models for sets of data.

		Learning Target	Success Criteria
Chapter 7: Rational Functions			
Chapter Learning Target Understand rational functions. **Chapter Success Criteria** • I can determine whether an equation represents direct variation or inverse variation. • I can graph rational functions. • I can add, subtract, multiply, and divide rational expressions. • I can solve rational equations.	7.1 Inverse Variation	Understand inverse variation.	• I can identify equations and data sets that show direct variation. • I can identify equations and data sets that show inverse variation. • I can write inverse variation equations. • I can solve real-life problems using inverse variation functions.
	7.2 Graphing Rational Functions	Describe and graph rational functions.	• I can graph rational functions. • I can describe transformations of rational functions. • I can explain how to find the asymptotes of a rational function from an equation. • I can write rational functions in different forms.
	7.3 Multiplying and Dividing Rational Expressions	Multiply and divide rational expressions.	• I can simplify rational expressions and identify any excluded values. • I can multiply rational expressions. • I can divide rational expressions.
	7.4 Adding and Subtracting Rational Expressions	Add and subtract rational expressions.	• I can add and subtract rational expressions with like denominators. • I can explain how to find a common denominator for rational expressions. • I can add and subtract rational expressions with unlike denominators.

		Learning Target	Success Criteria
Chapter 7 continued			
	7.5 Solving Rational Equations	Solve rational equations.	• I can solve rational equations by cross multiplying and by using least common denominators. • I can identify extraneous solutions of rational equations. • I can solve real-life problems using inverses of rational functions.

		Learning Target	Success Criteria
Chapter 8: Probability			
Chapter Learning Target Understand probability. **Chapter Success Criteria** • I can define theoretical and experimental probability. • I can use two-way tables to find probabilities. • I can compare independent and dependent events. • I can construct and interpret probability and binomial distributions.	8.1 Sample Spaces and Probability	Find sample spaces and probabilities of events.	• I can list the possible outcomes in a sample space. • I can find theoretical probabilities. • I can find experimental probabilities.
	8.2 Two-Way Tables and Probability	Use two-way tables to represent data and find probabilities.	• I can make two-way tables. • I can find and interpret relative frequencies and conditional relative frequencies. • I can use conditional relative frequencies to find probabilities.
	8.3 Conditional Probability	Find and use conditional probabilities.	• I can explain the meaning of conditional probability. • I can find conditional probabilities. • I can make decisions using probabilities.
	8.4 Independent and Dependent Events	Understand and find probabilities of independent and dependent events.	• I can explain how independent events and dependent events are different. • I can determine whether events are independent. • I can find probabilities of independent and dependent events.
	8.5 Probability of Disjoint and Overlapping Events	Find probabilities of disjoint and overlapping events.	• I can explain how disjoint events and overlapping events are different. • I can find probabilities of disjoint events. • I can find probabilities of overlapping events. • I can solve real-life problems using more than one probability rule.

		Learning Target	Success Criteria
Chapter 8 continued			
	8.6 Permutations and Combinations	Count permutations and combinations.	• I can explain the difference between permutations and combinations. • I can find numbers of permutations and combinations. • I can find probabilities using permutations and combinations.
	8.7 Binomial Distributions	Understand binomial distributions.	• I can explain the meaning of a probability distribution. • I can construct and interpret probability distributions. • I can find probabilities using binomial distributions.

		Learning Target	Success Criteria
Chapter 9: Data Analysis and Statistics			
Chapter Learning Target Understand data analysis and statistics. **Chapter Success Criteria** • I can find probabilities in normal distributions. • I can identify populations and samples. • I can explain different methods for collecting data. • I can make inferences from sample surveys and experiments.	9.1 Using Normal Distributions	Understand normal distributions.	• I can find probabilities in normal distributions. • I can interpret normal distributions. • I can find probabilities in standard normal distributions.
	9.2 Populations, Samples, and Hypotheses	Use random samples and simulations to make conclusions.	• I can distinguish between populations and samples. • I can find a sample proportion. • I can use a simulation to test a hypothesis.
	9.3 Collecting Data	Describe sampling methods and recognize bias when collecting data.	• I can identify types of sampling methods in statistical studies. • I can analyze methods of collecting data. • I can describe bias in sampling and in survey questions.
	9.4 Experimental Design	Describe and analyze experiments and their designs.	• I can assess the validity of an experiment's results. • I can design an experiment or observational study. • I can analyze experimental designs.
	9.5 Making Inferences from Sample Surveys	Use sample surveys to make conclusions about populations.	• I can estimate population parameters. • I can analyze the accuracy of a hypothesis using simulations. • I can find margins of error for surveys.
	9.6 Making Inferences from Experiments	Understand how to make inferences from experiments.	• I can analyze data from an experiment. • I can explain how to resample data. • I can use resampling to make inferences about a treatment.

		Learning Target	Success Criteria
Chapter 10: Trigonometric Ratios and Functions			
Chapter Learning Target Understand trigonometric ratios and functions. **Chapter Success Criteria** • I can define right triangle trigonometric functions. • I can evaluate trigonometric functions of any angle. • I can graph trigonometric functions. • I can model using trigonometric functions.	10.1 Right Triangle Trigonometry	Understand the six trigonometric functions.	• I can define the six trigonometric functions. • I can evaluate trigonometric functions. • I can use trigonometric functions to find side lengths of right triangles.
	10.2 Angles and Radian Measure	Draw angles in standard position and understand radian measure.	• I can draw angles in standard position. • I can explain the meaning of radian measure. • I can convert between degrees and radians. • I can use radian measure to find arc lengths and the area of a sector.
	10.3 Trigonometric Functions of Any Angle	Evaluate trigonometric functions of any angle.	• I can evaluate trigonometric functions given a point on an angle. • I can evaluate trigonometric functions using the unit circle. • I can find and use reference angles to evaluate trigonometric functions. • I can solve real-life problems involving projectiles.
	10.4 Graphing Sine and Cosine Functions	Describe and graph sine and cosine functions.	• I can identify characteristics of sine and cosine functions. • I can graph transformations of sine and cosine functions.

		Learning Target	Success Criteria
Chapter 10 continued			
	10.5 Graphing Other Trigonometric Functions	Describe and graph tangent, cotangent, secant, and cosecant functions.	• I can identify characteristics of tangent, cotangent, secant, and cosecant functions. • I can graph tangent and cotangent functions. • I can graph secant and cosecant functions.
	10.6 Modeling with Trigonometric Functions	Write trigonometric functions.	• I can write and graph trigonometric functions using frequency. • I can write trigonometric functions for a given graph. • I can find a trigonometric model for a set of data using technology.
	10.7 Using Trigonometric Identities	Use trigonometric identities to evaluate trigonometric functions and simplify trigonometric expressions.	• I can evaluate trigonometric functions using trigonometric identities. • I can simplify trigonometric expressions using trigonometric identities. • I can verify trigonometric identities.
	10.8 Using Sum and Difference Formulas	Use sum and difference formulas to evaluate and simplify trigonometric expressions.	• I can evaluate trigonometric expressions using sum and difference formulas. • I can simplify trigonometric expressions using sum and difference formulas. • I can solve trigonometric equations using sum and difference formulas.

		Learning Target	Success Criteria
Chapter 11: Sequences and Series			
Chapter Learning Target Understand sequences and series. **Chapter Success Criteria** • I can define and use sequences and series. • I can describe how to find sums of infinite geometric series. • I can analyze arithmetic and geometric sequences and series. • I can explain how to write recursive rules for sequences.	11.1 Defining and Using Sequences and Series	Understand sequences and series.	• I can use rules to write terms of sequences. • I can write rules for sequences. • I can write and find sums of series.
	11.2 Analyzing Arithmetic Sequences and Series	Analyze arithmetic sequences and series.	• I can identify arithmetic sequences. • I can write rules for arithmetic sequences. • I can find sums of finite arithmetic series.
	11.3 Analyzing Geometric Sequences and Series	Analyze geometric sequences and series.	• I can identify geometric sequences. • I can write rules for geometric sequences. • I can find sums of finite geometric series.
	11.4 Finding Sums of Infinite Geometric Series	Find partial sums and sums of infinite geometric series.	• I can find partial sums of infinite geometric series. • I can find sums of infinite geometric series. • I can solve real-life problems using infinite geometric series.
	11.5 Using Recursive Rules with Sequences	Write and use recursively defined sequences.	• I can write terms of recursively defined sequences. • I can write recursive rules for sequences. • I can translate between recursive rules and explicit rules. • I can use recursive rules to solve real-life problems.

		Learning Target	Success Criteria
Chapter 12: Matrices **Chapter Learning Target** Understand matrices. **Chapter Success Criteria** • I can perform operations with matrices. • I can determine when a product of matrices is defined. • I can evaluate determinants of matrices. • I can use inverse matrices to solve problems.	12.1 Basic Matrix Operations	Perform basic operations involving matrices.	• I can add and subtract matrices. • I can multiply matrices by scalars. • I can solve matrix equations. • I can represent data in a matrix to solve real-life problems.
	12.2 Multiplying Matrices	Understand how to multiply matrices.	• I can determine whether a product of matrices is defined. • I can multiply matrices. • I can use matrix multiplication to solve real-life problems.
	12.3 Determinants and Cramer's Rule	Find and use determinants of matrices.	• I can find the determinant of a square matrix. • I can use determinants to find areas of triangles. • I can use determinants to solve systems of equations.
	12.4 Inverse Matrices	Understand the relationship between a matrix and its inverse.	• I can find the inverse of a matrix. • I can solve linear systems using inverse matrices. • I can solve real-life problems using inverse matrices.