Calhoun County Schools
Algebra 2 Pacing Guide 2022-2023

Units	Unit 1 Quadratics Revisited	Unit 2 Operations with Polynomials	Unit 3 Polynomial Functions	Unit 4 Rational & Radical Relationships
Number of Instructional Days (145)	20 days	20 days	25 days	25 days
Georgia Standards of Excellence	MGSE9-12.N.CN.1 MGSE9-12.N.CN.2 MGSE9-12.N.CN.3 MGSE9-12.N.CN.7 MGSE9-12.N.CN.8 MGSE9-12.A.REI.4 MGSE9-12.A.REI.4b MGSE9-12.N.RN.1 MGSE9-12.N.RN.2	MGSE9-12.A.APR.1 MGSE9-12.A.APR.5 MGSE9-12.A.APR.6 MGSE9-12.F.BF.1 MGSE9-12.F.BF.1b MGSE9-12.F.BF.1c MGSE9-12.F.BF.4 MGSE9-12.F.BF.4a MGSE9-12.F.BF.4b MGSE9-12.F.BF.4c	MGSE9-12.N.CN.9 MGSE9-12.A.SSE.1 MGSE9-12.A.SSE.1a MGSE9-12.A.SSE.1b MGSE9-12.A.SSE.2 MGSE9-12.A.APR.2 MGSE9-12.A.APR.3 MGSE9-12.A.APR.4 MGSE9-12.F.IF.4 MGSE9-12.F.IF.7 MGSE9-12.F.IF.7c	MGSE9-12.A.APR.7 MGSE9-12.A.CED.1 MGSE9-12.A.CED.2 MGSE9-12.A.REI.2 MGSE9-12.F.IF.4 MGSE9-12.F.IF.5 MGSE9-12.F.IF.7 MGSE9-12.F.IF.7b MGSE9-12.F.IF.7d
Unit Description	Students will revisit solving quadratic equations in this unit. Students explore relationships between number systems: whole numbers, integers, rational numbers, real numbers, and complex numbers. Students will perform operations with complex numbers and solve quadratic equations with complex	This unit develops the structural similarities between the system of polynomials and the system of integers. Students draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, particularly the distributive property. Students connect multiplication of	In this unit, students continue their study of polynomials by identifying zeros and making connections between zeros of a polynomial and solutions of a polynomial equation. Students will see how the Fundamental Theorem of Algebra can be used to determine the number of solutions of a polynomial equation and will find all the roots of those equations.	Rational numbers extend the arithmetic of integers by allowing division by all numbers except 0. Similarly, rational expressions extend the arithmetic of polynomials by allowing division by all polynomials except the zero polynomial. A central theme of this unit is that the arithmetic of rational expressions is governed by the same rules as the arithmetic

	solutions. Students will also extend the laws of exponents to rational exponents and use those properties to evaluate and simplify expressions containing rational exponents.	**polynomials with multiplication of multi-digit integers, and division of polynomials with long division of integers. Students will find inverse functions and verify by composition that one function is the inverse of another function.**	**Students will graph polynomial functions and interpret the key characteristics of the function.**	**of rational numbers. Similarly, radical expressions follow the rules governed by irrational numbers.**
Remediation Skills	• **Solve linear equations** • **Simplify radicals** • **Perfect squares** • **Exponent rules (Product of Powers)** • **Combine Like Terms** • **Distributive Property**	• **Distributive property** • **Combine like terms** • **Exponent rule (Product of Powers)** • **Solve linear equations** • **Evaluate an expression or an equation**	• **Identify parts of an expression** • **Find greatest common factor of an expression** • **Factor quadratic expressions** • **Sketch the graph of a linear function**	• **Remind students of basic fraction computation; apply that concept to operation with rational expressions.** • **Factor polynomials** • **Distributive property** • **Solve linear and quadratic equations(by square roots)** • **Review finding key characteristics of linear, exponential, and quadratic functions to prepare students for characteristics of rational and radical functions.**
HMH Lessons	***.Module 2: Solving Quadratic Equations and Systems***	***Module 4: Function Operations and Polynomials***	***Module 1: Analyze Functions*** ***Module 3:Polynomial Functions*** ***Module 5 Polynomial Functions***	***Module 7: Radical Functions and Equations*** ***Module 11: Rational Functions***


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Units	Unit 5 Exponential & Logarithms	Unit 6 Mathematical Modeling	Unit 7 Inferences and Conclusions from Data
Number of Instructional Days (145)	**20 days**	**20 days**	**15 days**
Georgia Standards of Excellence	**MGSE9-12.A.SSE.3 MGSE9-12.A.SSE.3c MGSE9-12.F.IF.7 MGSE9-12.F.IF.7e MGSE9-12.F.IF.8 MGSE9-12.F.IF.8b MGSE9-12.F.BF.5 MGSE9-12.F.LE.4**	**MGSE9-12.A.SSE.4 MGSE9-12.A.CED.1 MGSE9-12.A.CED.2 MGSE9-12.A.CED.3 MGSE9-12.A.CED.4 MGSE9-12.A.REI.11 MGSE9-12.F.IF.6 MGSE9-12.F.IF.9 MGSE9-12.F.BF.3**	**MGSE9-12.S.ID.2 MGSE9-12.S.ID.4 MGSE9-12.S.IC.1 MGSE9-12.S.IC.2 MGSE9-12.S.IC.3 MGSE9-12.S.IC.4 MGSE9-12.S.IC.5 MGSE9-12.S.IC.6**

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Unit Description	**Students extend their work with exponential functions to include solving exponential equations with logarithms. They analyze the relationship between these two functions.**	**In this unit students synthesize and generalize what they have learned about a variety of function families. They explore the effects of transformations on graphs of diverse functions, including functions arising in an application, in order to abstract the general principle that transformations on a graph always have the same effect regardless of the type of the underlying functions. They identify appropriate types of functions to model a situation, they adjust parameters to improve the model, and they compare models by analyzing appropriateness of fit and making judgments about the domain over which a model is a good fit. They determine whether it is best to model with multiple functions creating a piecewise function. Students will also explore the sum of finite geometric series.**	**In this unit, students see how the visual displays and summary statistics they learned in earlier grades relate to different types of data and to probability distributions. They identify different ways of collecting data— including sample surveys, experiments, and simulations—and the role that randomness and careful design play in the conclusions that can be drawn.**
Remediation Skills	• **The concept of a function** • **Exponential functions and their characteristics** • **Basic exponent**		• **Calculate the mean, median, interquartile range, and mean absolute deviation by hand in simple cases and using technology with larger data sets** • **Determine whether a set of data contains outliers.** • **Describe center and spread of a data set**

	rules (product, quotient, and power properties of exponents) •		
HMH Lessons	**Module 8: Exponential Functions** **Module 9: Logarithmic Functions**		