



## 8th-Grade Advanced Algebra Math- Curriculum Map

Last Updated: 10/28/24

Quarter 1		
Essential Question/Topic	Standards	Parent Resources
Review Algebra Concepts		
Solve Multi Step Equations	A-REI Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	<a href="https://www.khanacademy.org">https://www.khanacademy.org</a> See Google Classroom <a href="#">IXL</a> <a href="#">MathXL</a>
Solve Uniform Motion, Distance, Mixture and Integer Equations	A-CED Create equations in two or more variables to represent relationships between quantities;	
Solve and Graph Inequalities	A-REI Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	
Solve and Graph Compound Inequalities	A-REI Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	
Absolute Value Eq/Ineq.	F- IF Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	
Midpoint/Distance Formula	G-GPE Use coordinates to compute distances using the distance formula	
Intro to Functions	F - IF 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.	

Quarter 2		
Essential Question/Topic	Standards	Parent Resources
Evaluate Functions	F-IF Use function notation, evaluate functions for inputs in their domains, and interpret statements	<a href="https://www.khanacademy.org">https://www.khanacademy.org</a>



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	that use function notation in terms of a context.	See Google Classroom <a href="#">IXL</a> <a href="#">MathXL</a>
Graph Functions	F-IF Graph linear and quadratic functions and show intercepts	
Slope of a line	F-IF Calculate and interpret the average rate of change of a function Graph linear and quadratic functions and show intercepts	
Parallel/Perpendicular Lines	GPE Find the equation of a line parallel or perpendicular to a given line that passes through a point	
Forms of Linear Equations	F-LE Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	
Linear Inequalities	A-REI Graph the solutions to a linear inequality	
Systems of Equations Graphing, Substitution, Elimination	A-REI Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables	
Application Problems of Systems	A-REI 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.	
Systems of Inequalities	A-REI 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	
Intro to Polynomials	A-SSE Interpret parts of an expression, such as terms, factors, and coefficients.	
Operations of Polynomials	A-APR 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. A-APR Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number $a$ , the remainder on division	



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Quarter 3		
Essential Question/Topic	Standards	Parent Resources
Factoring Polynomials, Special Factors	A-APR Identify zeros of polynomials when suitable factorizations are available	<a href="https://www.khanacademy.org">https://www.khanacademy.org</a> See Google Classroom <a href="#">IXL</a> <a href="#">MathXL</a>
Solve by Factoring	A-APR Identify zeros of polynomials when suitable factorizations are available	
Intro To Rational Expressions Operations of Rational Expressions.	A-APR 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.	
Complex Fractions	A-APR Rewrite simple rational expressions in different forms	
Solve Rational Equations	A-REI Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	
Literal Equations	A-CED4 Rearrange formulas to highlight a quantity of interest	
Rational Exponents	NRN1 Explain and Apply properties of rational exponents	

Quarter 4		
Essential Question/Topic	Standards	Parent Resources
Operations of Radicals	A-REI Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	<a href="https://www.khanacademy.org">https://www.khanacademy.org</a> See Google Classroom <a href="#">IXL</a> <a href="#">MathXL</a>
Graph Radical Functions	F-IF7 Graph functions express symbolically and show key features of the graph	



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Solve Radical Functions	A-REI Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	
Complex Numbers and Operations	N-CN Represent addition, subtraction, multiplication, division in complex numbers	
Graph Quadratics	F-IF7 Graph functions express symbolically and show key features of the graph	
Solve Quadratics by Factoring, Square Roots	A-REI Solve quadratic equations in one variable	
Solve Quadratics by Completing Sq. and Formula	A-REI Use the method of completing the square to transform any quadratic equation in $x$ into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.	
Application of Quadratics	A-REI Solve quadratic equations in one variable.	