



# Table of Contents Preview

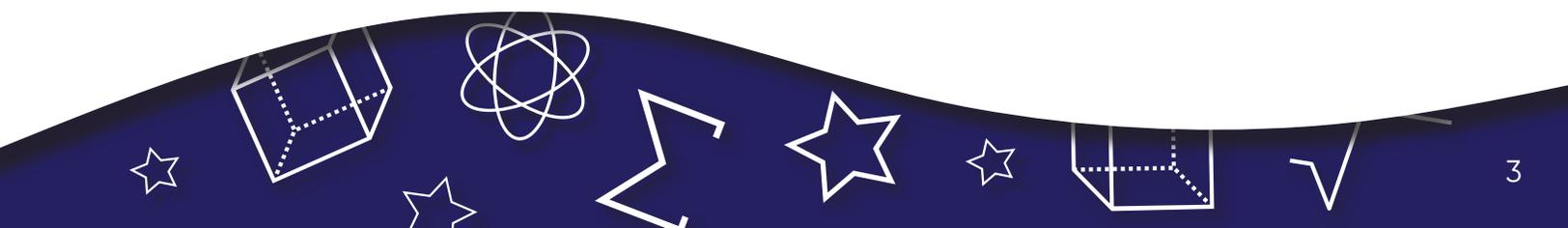
Algebra 1, Geometry, and Algebra 2

## Into AGA Table of Contents – Algebra 1

UNIT 1: Real Numbers and Connections to Algebra		
	<b>Lessons</b>	
<b>Module 1: Real Numbers and Real-World Quantities</b>	1.1	Real Numbers
	1.2	Radicals and Rational Exponents
	1.3	Precision and Accuracy in Calculations
	<b>Lessons</b>	
<b>Module 2: Linear Equations and Inequalities in One Variable</b>	2.1	Write, Interpret, and Simplify Expressions
	2.2	Write and Solve Equations
	2.3	Rewrite Formulas and Solve Literal Equations
	2.4	Write and Solve Inequalities
	2.5	Write and Solve Compound Inequalities
UNIT 2: Linear Equations in Two Variables		
	<b>Lessons</b>	
<b>Module 3: Linear Equations in Two Variables</b>	3.1	Linear Equations in Standard Form
	3.2	Slopes of Lines and Rates of Change
	<b>Lessons</b>	
<b>Module 4: Linear Functions and Models</b>	4.1	Relations and Functions
	4.2	Linear Functions
	4.3	Characteristics of Linear Functions
	4.4	Linear Models and Point-Slope Form
	<b>Lessons</b>	
<b>Module 5: Relationships Among Linear Functions</b>	5.1	Transform Graphs
	5.2	Transform Linear Functions
	5.3	Compare Linear Functions
	5.4	Inverses of Linear Functions
UNIT 3: Build Linear Functions and Models		
	<b>Lessons</b>	
<b>Module 6: Fit Linear Functions to Data</b>	6.1	Scatter Plots, Correlation, and Fitted Lines
	6.2	Residuals and Best-Fit Lines
	<b>Lessons</b>	
<b>Module 7: Discrete Linear Functions</b>	7.1	Arithmetic Sequences Defined Recursively
	7.2	Arithmetic Sequences Defined Explicitly

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	Lessons	
<b>Module 8: Piecewise-Defined Functions</b>	8.1	Graph Piecewise-Defined Functions
	8.2	Graph Absolute Value Functions
	8.3	Absolute Value Equations and Inequalities
<b>UNIT 4: Linear Systems</b>		
	Lessons	
<b>Module 9: Systems of Linear Equations</b>	9.1	Solve Linear Systems by Graphing
	9.2	Solve Linear Systems by Substitution
	9.3	Solve Linear Systems by Adding or Subtracting
	9.4	Solve Linear Systems by Multiplying First
	Lessons	
<b>Module 10: Linear Inequalities</b>	10.1	Linear Inequalities in Two Variables
	10.2	Graph Systems of Linear Inequalities
<b>UNIT 5: Functions and Equations</b>		
	Lessons	
<b>Module 11: Exponential Functions and Models</b>	11.1	Exponential Growth Functions
	11.2	Exponential Decay Functions
	11.3	Exponential Models and Equations
	Lessons	
<b>Module 12: Relationships Among Exponential Functions</b>	12.1	Transform Exponential Functions
	12.2	Compare Exponential Functions
<b>UNIT 6: Build Exponential Functions and Models</b>		
	Lessons	
<b>Module 13: Fit Exponential Functions to Data</b>	13.1	Scatter Plots and Fitted Exponential Curves
	13.2	Choose Between Linear and Exponential Models
	Lessons	
<b>Module 14: Discrete Exponential Functions</b>	14.1	Geometric Sequences Defined Recursively
	14.2	Geometric Sequences Defined Explicitly



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UNIT 7: Polynomial Operations and Models		
	Lessons	
<b>Module 15: Polynomial Multiplication</b>	15.1	Multiply Monomials
	15.2	Multiply Monomials, Binomials, and Trinomials
	15.3	Special Products of Binomials
	Lessons	
<b>Module 16: Polynomial Addition and Subtraction</b>	16.1	Add and Subtract Polynomials
	16.2	Model with Polynomials
UNIT 8: Quadratic Functions and Equations		
	Lessons	
<b>Module 17: Use Graphing and Factoring to Solve Quadratic Equations</b>	17.1	Solve Quadratic Equations by Graphing Quadratic Functions
	17.2	Solve Quadratic Equations by Factoring $x^2 + bx + c$
	17.3	Solve Quadratic Equations by Factoring $ax^2 + bx + c$
	17.4	Use Special Factoring Patterns to Solve Quadratic Equations
	Lessons	
<b>Module 18: Use Square Roots to Solve Quadratic Equations</b>	18.1	Solve Quadratic Equations by Taking Square Roots
	18.2	Solve Quadratic Equations by Completing the Square
	18.3	Use the Quadratic Formula to Solve Equations
	18.4	Choose a Method for Solving Quadratic Equations
UNIT 9: Functions and Models		
	Lessons	
<b>Module 19: Build Quadratic Functions and Models</b>	19.1	Quadratic Functions in Vertex Form
	19.2	Quadratic Functions in Standard Form
	19.3	Quadratic Functions in Intercept Form
	19.4	Compare Quadratic Functions and Models
	19.5	Scatter Plots and Fitted Quadratic Curves
	Lessons	
<b>Module 20: Function Analysis</b>	20.1	Choose Among Linear, Exponential, and Quadratic Models
	20.2	Perform Operations with Functions
	20.3	Solve Nonlinear Systems
	20.4	Cubic Functions

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UNIT 10: Data Analysis		
	Lessons	
Module 21: Categorical Data	21.1	Two-Way Frequency and Relative Frequency Tables
	21.2	Recognize Possible Associations Between Categorical Variables
	Lessons	
Module 22: Numerical Data	22.1	Data Distributions and Appropriate Statistics
	22.2	Compare Data Distributions

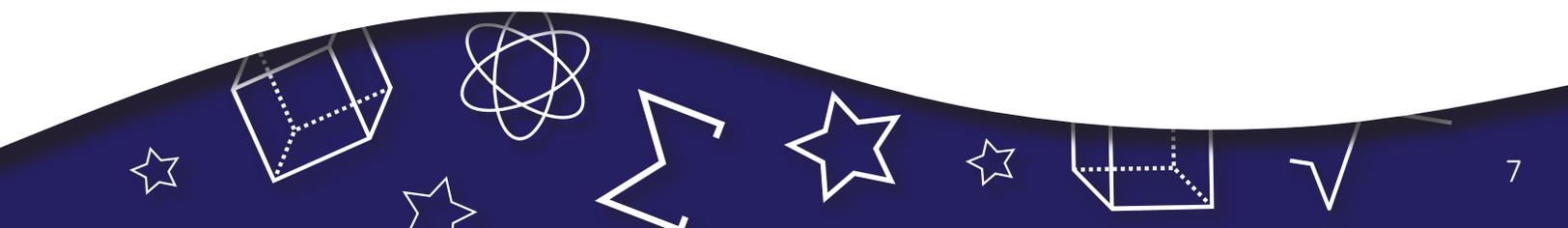


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<b>UNIT 1: The Essentials of Geometry</b>		
	<b>Lessons</b>	
<b>Module 1: Geometry in the Plane</b>	1.1	Points, Lines, and Planes
	1.2	Define and Measure Angles
	1.3	Polygons and Figures in the Plane
	1.4	Length in the Coordinate Plane
	<b>Lessons</b>	
<b>Module 2: Tools for Reasoning and Proof</b>	2.1	Write Conditional Statements
	2.2	Use Inductive and Deductive Reasoning
	2.3	Write Proofs about Segments
	2.4	Write Proofs about Angles
<b>UNIT 2: Parallel and Perpendicular Lines</b>		
	<b>Lessons</b>	
<b>Module 3: Lines and Transversals</b>	3.1	Parallel Lines Crossed by a Transversal
	3.2	Prove Lines Are Parallel
	3.3	Prove Lines Are Perpendicular
	<b>Lessons</b>	
<b>Module 4: Lines on the Coordinate Plane</b>	4.1	Slope and Equations of Parallel Lines
	4.2	Slope and Equations of Perpendicular Lines
	4.3	Use Coordinates to Prove Statements about Segments
<b>UNIT 3: Transformations</b>		
	<b>Lessons</b>	
<b>Module 5: Transformations that Preserve Size and Shape</b>	5.1	Define and Apply Translations
	5.2	Define and Apply Rotations
	5.3	Define and Apply Reflections
	5.4	Define and Apply Symmetry
	<b>Lessons</b>	
<b>Module 6: Transformations that Change Size and Shape</b>	6.1	Define and Apply Dilations and Stretches
	6.2	Apply Sequences of Transformations

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UNIT 4: Triangle Congruence		
	Lessons	
<b>Module 7: Congruent Triangles and Polygons</b>	7.1	Understand Congruent Figures
	7.2	Corresponding Parts of Congruent Figures
	7.3	Use Rigid Motions to Prove Figures Are Congruent
	Lessons	
<b>Module 8: Triangle Congruence Criteria</b>	8.1	Develop ASA Triangle Congruence
	8.2	Develop SAS Triangle Congruence
	8.3	Develop SSS Triangle Congruence
	8.4	Develop AAS and HL Triangle Congruence
UNIT 5: Relationships Within Triangles		
	Lessons	
<b>Module 9: Properties of Triangles</b>	9.1	Angles in Triangles
	9.2	Perpendicular Bisectors
	9.3	Angle Bisectors
	9.4	Medians and Altitudes
	9.5	The Triangle Midsegment Theorem
	Lessons	
<b>Module 10: Triangle Inequalities</b>	10.1	Inequalities in One Triangle
	10.2	Inequalities in Two Triangles
UNIT 6: Quadrilaterals, Polygons, and Triangle Similarity		
	Lessons	
<b>Module 11: Quadrilaterals and Polygons</b>	11.1	Properties of Parallelograms
	11.2	Conditions for Parallelograms
	11.3	Properties of Rectangles, Rhombuses, Squares
	11.4	Conditions for Rectangles, Rhombuses, Squares
	11.5	Properties and Conditions for Trapezoids and Kites

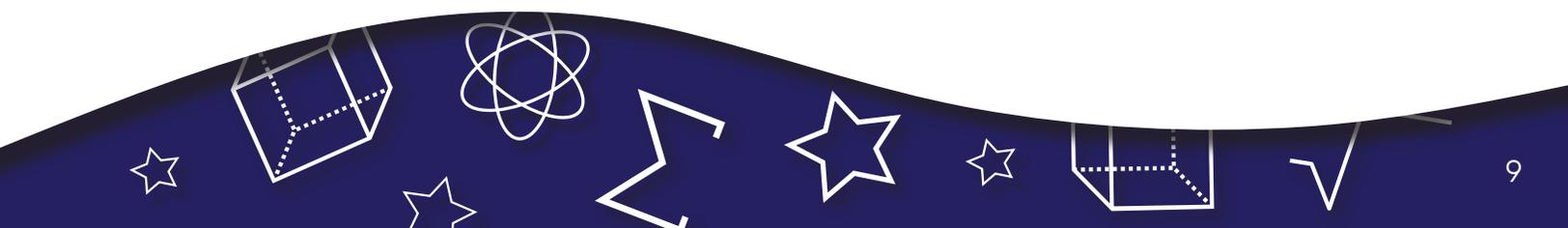


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	Lessons	
<b>Module 12: Similarity</b>	12.1	Use Transformations to Prove Figures Are Similar
	12.2	Develop AA Triangle Similarity
	12.3	Develop and Prove Triangle Proportionality
	12.4	Apply Similarity in Right Triangles
<b>UNIT 7: Right Triangle Trigonometry</b>		
	Lessons	
<b>Module 13: Trigonometry with Right Triangles</b>	13.1	Tangent Ratio
	13.2	Sine and Cosine Ratios
	13.3	Special Right Triangles
	13.4	Modeling with Similar Right Triangles
	Lessons	
<b>Module 14: Trigonometry with All Triangles</b>	14.1	Law of Sines
	14.2	Law of Cosines
<b>UNIT 8: Circles</b>		
	Lessons	
<b>Module 15: Lines that Intersect Circles</b>	15.1	Central Angles and Inscribed Angles
	15.2	Angles in Inscribed Quadrilaterals
	15.3	Tangents and Circumscribed Angles
	15.4	Circles in the Coordinate Plane
	Lessons	
<b>Module 16: Relationships in Circles</b>	16.1	Segment Relationships in Circles
	16.2	Angle Relationships in Circles
	Lessons	
<b>Module 17: Circumference and Area</b>	17.1	Measure Circumference and Area of a Circle
	17.2	Measure Arc Length and Use Radians
	17.3	Measure Sector Area

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	Lessons	
<b>Module 18: Surface Area</b>	18.1	Three-Dimensional Figures
	18.2	Surface Area of Prisms and Cylinders
	18.3	Surface Area of Pyramids and Cones
	18.4	Surface Area of Spheres
	Lessons	
<b>Module 19: Volume</b>	19.1	Volume of Prisms and Cylinders
	19.2	Volume of Pyramids, and Cones
	19.3	Volume of Spheres
UNIT 10: Probability		
	Lessons	
<b>Module 20: Probability of Multiple Events</b>	20.1	Probability and Set Theorem
	20.2	Mutually Exclusive and Overlapping Events
	Lessons	
<b>Module 21: Conditional Probability and Overlapping Events</b>	21.1	Conditional Probability
	21.2	Probability of Independent Events
	21.2	Probability of Dependent Events



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<b>UNIT 1: Functions and Equations</b>		
	Lessons	
<b>Module 1: Analyzing Functions</b>	1.1	Domain, Range, and End Behavior
	1.2	Characteristics of Functions and Graphs
	1.3	Transformations of Functions
	1.4	Transformations of Absolute Value and Quadratic Functions
	1.5	Compare Functions Across Representations
	Lessons	
<b>Module 2: Solve Quadratic Equations and Systems</b>	2.1	Solve Quadratic Equations by Taking Square Roots
	2.2	Operations with Complex Numbers
	2.3	Prove and Apply the Quadratic Formula
	2.4	Solve and Graph Nonlinear Systems
<b>UNIT 2: Polynomial Functions and Equations</b>		
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<b>Module 3: Polynomial Functions</b>	3.1	Graph Polynomial Functions
	3.2	Analyze Graphs of Polynomial Functions
	Lessons	
<b>Module 4: Function Operations and Polynomials</b>	4.1	Function Operations
	4.2	Add and Subtract Polynomials
	4.3	Multiply Polynomials
	4.4	Factor Polynomials
	4.5	Divide Polynomials
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<b>Module 5: Polynomial Equations</b>	5.1	Solve Polynomial Equations
	5.2	The Fundamental Theorem of Algebra
<b>UNIT 3: Rational Expressions and Radical Functions</b>		
	Lessons	
<b>Module 6: Rational Exponents and Radical Operations</b>	6.1	Rational Exponents and $n$ th Roots
	6.2	Properties of Rational Exponents and Radicals

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	Lessons	
<b>Module 7: Radical Functions and Equations</b>	7.1	Inverse Functions and Function Composition
	7.2	Inverses of Quadratic and Cubic Functions
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	7.4	Graph Cube Root Functions
	7.5	Solve Radical Equations
<b>UNIT 4: Exponential and Logarithmic Functions and Equations</b>		
	Lessons	
<b>Module 8: Exponential Functions</b>	8.1	Exponential Growth and Decay Functions
	8.2	The Natural Base $e$
	8.3	Compound Interest
	Lessons	
<b>Module 9: Logarithmic Functions</b>	9.1	Logarithms and Logarithmic Functions
	9.2	Graph Logarithmic Functions
	9.3	Create Exponential and Logarithmic Functions
	Lessons	
<b>Module 10: Exponential and Logarithmic Equations</b>	10.1	Properties of Logarithms
	10.2	Solve Exponential Equations
	10.3	Solve Logarithmic Equations
<b>UNIT 5: Rational Functions and Equations</b>		
	Lessons	
<b>Module 11: Rational Functions</b>	11.1	Inverse Variation
	11.2	Graph Simple Rational Functions
	11.3	Graph More Complicated Rational Functions
	Lessons	
<b>Module 12: Rational Expressions and Equations</b>	12.1	Multiply and Divide Expressions
	12.2	Add and Subtract Rational Exponents
	12.3	Solve Rational Equations

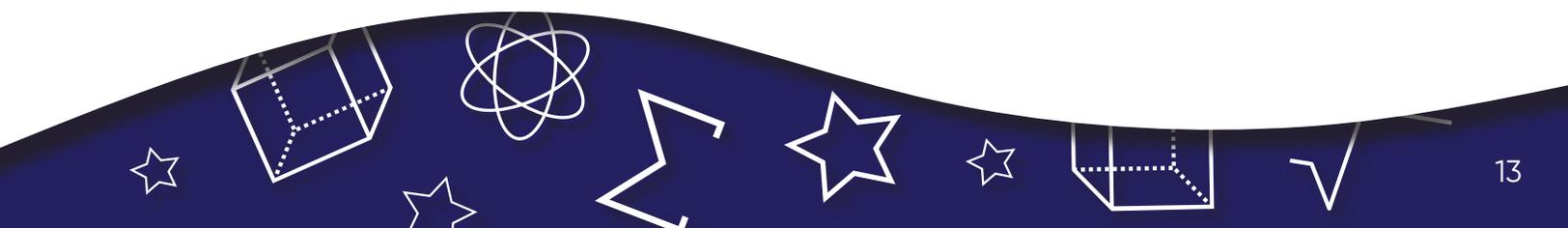


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<b>UNIT 6: Sequences and Series</b>		
	Lessons	
<b>Module 13: Explicit Formulas for Sequences and Series</b>	13.1	Define Sequences and Series
	13.2	Arithmetic Sequences and Series
	13.3	Geometric Sequences and Series
	Lessons	
<b>Module 14: Recursive Formulas for Sequences</b>	14.1	Recursive Formulas for Arithmetic Sequences
	14.2	Recursive Formulas for Geometric Sequences
<b>UNIT 7: Trigonometric Functions and Identities</b>		
	Lessons	
<b>Module 15: Unit-Circle Definition of Trigonometric Functions</b>	15.1	Angles of Rotation and Radian Measure
	15.2	Define and Evaluate the Basic Trigonometric Functions
	15.3	Use a Pythagorean Identity
	Lessons	
<b>Module 16: Graph Trigonometric Functions</b>	16.1	Graph Sine and Cosine Functions
	16.2	Graph Tangent Functions
	16.3	Translations of Trigonometric Graphs
	16.4	Create Sine Functions to Model Periodic Phenomena
<b>UNIT 8: Probability</b>		
	Lessons	
<b>Module 17: Probability of Compound Events</b>	17.1	Theoretical and Experimental Probability
	17.2	Two-Way Tables and Probability
	17.3	Mutually Exclusive and Inclusive Events
	Lessons	
<b>Module 18: Probability and Decision Making</b>	18.1	Conditional Probability
	18.2	Dependent and Independent Events
	18.3	Analyze Decisions

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Module 19: Data Distributions	19.1	Probability Distributions
	19.2	Normal Distributions
	19.3	Data-Gathering Techniques
	19.4	Sampling Distributions
	Lessons	
Module 20: Make Inferences from Data	20.1	Confidence Intervals and Margins of Error
	20.2	Surveys, Experiments, and Observational Studies
	20.3	Make Inferences from Experimental Data









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