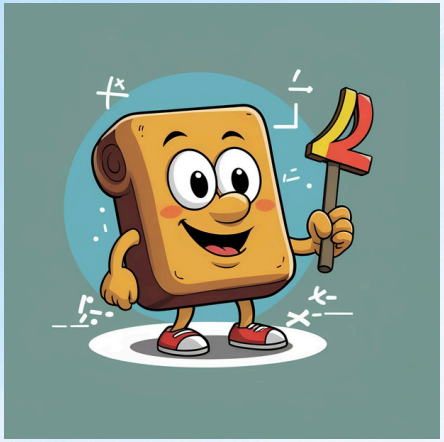
Course Title	IAA Algebra II

INNOVATIVE ARTS ACADEMY

Course Overview	This course covers foundational algebraic concepts, progresses through various function types (linear, quadratic, polynomial, radical, rational, exponential, logarithmic, trigonometric), sequences and series, and concludes with data analysis, probability, and statistics

Unit Title	Foundations: Real Numbers, Expressions, Equations, and Inequalities	
Time Frame	23 Days	



Focus of the Unit

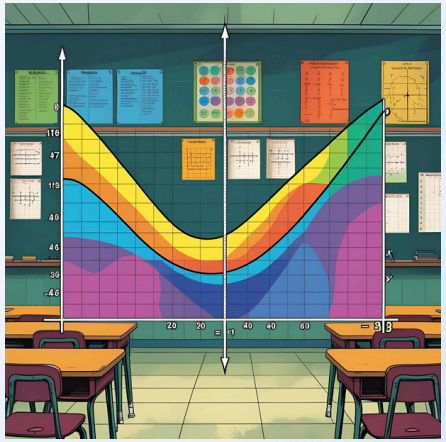
This unit establishes foundational algebraic concepts including properties of real numbers, operating with expressions, and writing and solving linear and compound equations and inequalities

Unit Title	Linear Functions and Systems	
Time Frame	23 Days	

Focus of the Unit

This unit focuses on understanding, representing, and graphing linear functions, analyzing rates of change, and solving systems of linear equations and inequalities

Unit Title	Quadratic Functions and Equations	
Time Frame	23 Days	



Focus of the Unit

This unit explores quadratic functions, covering their graphs, key features, and various algebraic methods for factoring and solving quadratic equations

Unit Title	Polynomial Functions and Operations	
Time Frame	23 Days	

Focus of the Unit

This unit covers performing arithmetic operations with polynomials, applying advanced factoring techniques, and analyzing and graphing higher-degree polynomial functions

Board approved 8/2025

Course Title	IAA Algebra II

INNOVATIVE ARTS ACADEMY

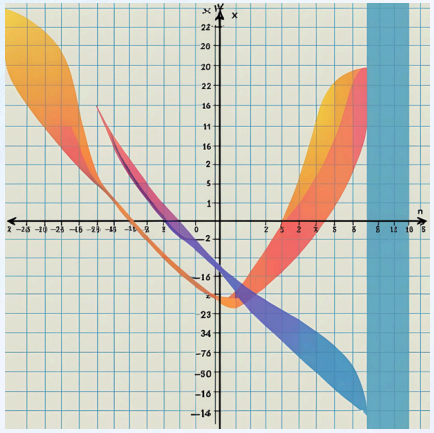
Course Overview	This course covers foundational algebraic concepts, progresses through various function types (linear, quadratic, polynomial, radical, rational, exponential, logarithmic, trigonometric), sequences and series, and concludes with data analysis, probability, and statistics

Unit Title	Radical and Rational Functions and Equations		
Time Frame	23 days		

Focus of the Unit

This unit investigates rational exponents and radicals, and analyzes, graphs, and solves equations involving radical and rational functions

Unit Title	Exponential and Logarithmic Functions and Equations		
Time Frame	23 days		



Focus of the Unit

This unit studies exponential growth and decay models, explores the characteristics and graphs of exponential and logarithmic functions, and develops techniques for solving related equations

Unit Title	Sequences and Series		
Time Frame	15 days		

Focus of the Unit

This unit focuses on defining and analyzing arithmetic and geometric sequences and calculating the sums of finite series

Unit Title	Trigonometric Functions, Data Analysis, Probability, and Statistics		
Time Frame	22 days		

Focus of the Unit

This unit covers trigonometric functions including angle measure and the unit circle, methods for representing, summarizing, and interpreting various types of data, understanding probability concepts, and using statistical methods for inferences .

Unit Title	Foundations: Real Numbers, Expressions, Equations, and Inequalities
Time Frame	23 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)
How can we use mathematical language and properties to describe and solve problems involving real numbers and basic equations and inequalities?

Focus of the Unit
This unit establishes foundational algebraic concepts including properties of real numbers, operating with expressions, and writing and solving linear and compound equations and inequalities

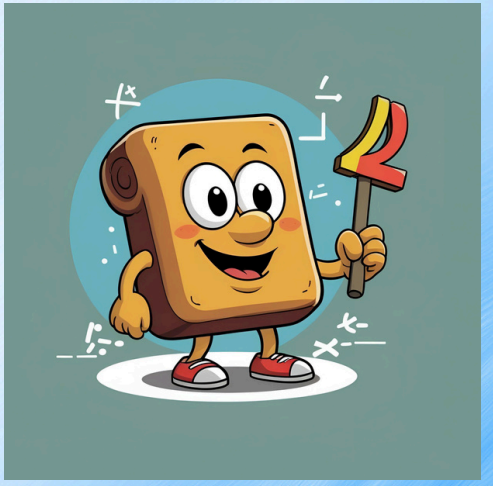
Standards	CC.2.1.HS.F.1, CC.2.1.HS.F.2, CC.2.1.HS.F.4, CC.2.2.HS.D.7, CC.2.2.HS.D.8

Learning Targets
I can operate with real numbers and understand their properties

Learning Targets
I can write, interpret, and simplify algebraic expressions

Learning Targets
I can write and solve linear equations and inequalities in one variable

Learning Targets
I can write and solve compound inequalities



Resources	HMH Textbook Into Algebra II, iXL

Unit Title	Linear Functions and Systems
Time Frame	23 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)
How do linear relationships model constant rates of change in the world? How can we use graphs, tables, and equations to represent and solve problems involving one or more linear relationships?

Focus of the Unit
This unit focuses on understanding, representing, and graphing linear functions, analyzing rates of change, and solving systems of linear equations and inequalities

Standards	CC.2.2.HS.C.1, CC.2.2.HS.C.2, CC.2.2.HS.C.3, CC.2.2.HS.D.7, CC.2.2.HS.D.8

Learning Targets
I can understand and use the concept of a function and function notation

Learning Targets
I can graph and analyze linear functions and their properties

Learning Targets
I can solve systems of linear equations algebraically and graphically

Learning Targets
I can graph and solve systems of linear inequalities

Resources	HMH Textbook Into Algebra II, iXL

Unit Title	**Quadratic Functions and Equations**
Time Frame	23 Days

INNOVATIVE ARTS ACADEMY

Essential Question(s)

How do quadratic functions describe situations involving parabolic paths or areas? How can we use different methods (factoring, graphing, formulas) to find solutions to quadratic problems?

Focus of the Unit

This unit explores quadratic functions, covering their graphs, key features, and various algebraic methods for factoring and solving quadratic equations

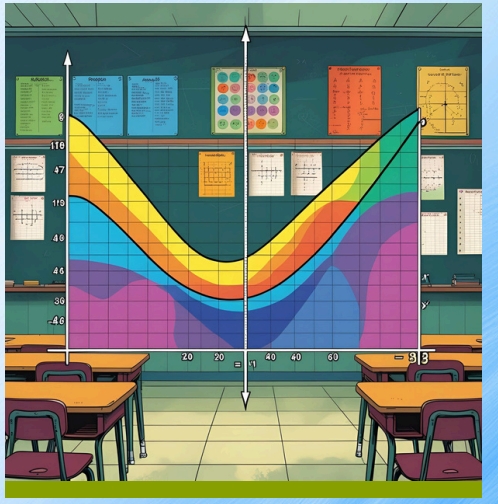
Standards	**CC.2.2.HS.D.4, CC.2.2.HS.D.5, CC.2.2.HS.D.7, CC.2.2.HS.D.8, CC.2.2.HS.C.2, CC.2.2.HS.C.3**

Learning Targets

I can graph quadratic functions and identify their key features

Learning Targets

I can factor quadratic expressions



Learning Targets

I can solve quadratic equations by factoring, taking square roots, and completing the square

Learning Targets

I can solve quadratic equations using the quadratic formula

Resources	**HMH Textbook Into Algebra II, iXL**

Unit Title	Unit 4: Polynomial Functions and Operations
Time Frame	23 days

INNOVATIVE ARTS ACADEMY

Essential Question(s)
How are operations with polynomials similar to and different from operations with integers? How do algebraic properties and factoring help us understand their behavior and graphs?

Focus of the Unit
This unit covers performing arithmetic operations with polynomials, applying advanced factoring techniques, and analyzing and graphing higher-degree polynomial functions

Standards	CC.2.2.HS.D.4, CC.2.2.HS.D.5, CC.2.2.HS.D.7, CC.2.2.HS.D.8, CC.2.2.HS.C.2, CC.2.2.HS.C.3

Learning Targets
I can add, subtract, and multiply polynomials

Learning Targets
I can factor polynomials using various techniques

Learning Targets
I can identify zeros of polynomials and use them to sketch graphs

Learning Targets
I can graph polynomial functions and analyze their key features

Resources	HMH Textbook Into Algebra II, iXL

Unit Title	Unit 5: Radical and Rational Functions and Equations
Time Frame	23 days

INNOVATIVE ARTS ACADEMY

Essential Question(s)
How can understanding the properties of exponents and radicals help us solve equations and graph functions? What are the key features of radical and rational functions, and how do they differ from other function types?

Focus of the Unit
This unit investigates rational exponents and radicals, and analyzes, graphs, and solves equations involving radical and rational functions.

Standards	CC.2.1.HS.F.1, CC.2.1.HS.F.2, CC.2.2.HS.D.6, CC.2.2.HS.D.7, CC.2.2.HS.D.8, CC.2.2.HS.C.2

Learning Targets
I can rewrite expressions involving radicals and rational exponents using properties of exponents

Learning Targets
I can graph radical functions and identify their key features

Learning Targets
I can solve radical equations, identifying extraneous solution

Learning Targets
I can graph rational functions, identifying zeros and asymptotes

Resources	HMH Textbook Into Algebra II, iXL

Unit Title	Unit 6: Exponential and Logarithmic Functions and Equations
Time Frame	23 days

INNOVATIVE ARTS ACADEMY

Essential Question(s)
How do exponential and logarithmic functions model real-world growth and decay? How can we use the inverse relationship between exponents and logarithms to solve equations?

Focus of the Unit
This unit studies exponential growth and decay models, explores the characteristics and graphs of exponential and logarithmic functions, and develops techniques for solving related equations.

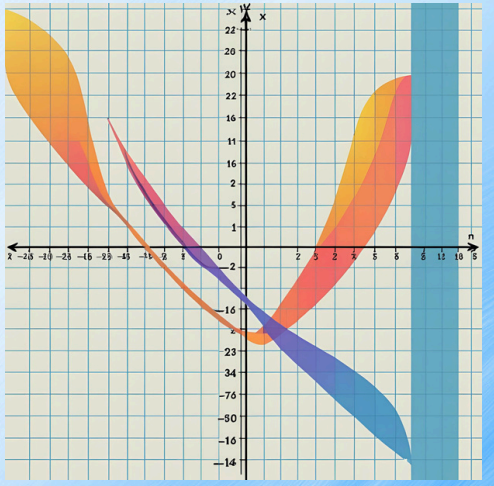
Standards	CC.2.1.HS.F.1, CC.2.2.HS.C.2, CC.2.2.HS.C.3, CC.2.2.HS.C.9, CC.2.2.HS.D.7, CC.2.2.HS.D.8

Learning Targets
I can write and graph exponential growth and decay functions

Learning Targets
I can understand logarithms as the inverse of exponents and use properties of logarithms

Learning Targets
I can graph logarithmic functions and identify their key features

Learning Targets
I can solve exponential and logarithmic equations



Resources	HMH Textbook Into Algebra II, iXL

Unit Title	Unit 7: Sequences and Series
Time Frame	15 days

INNOVATIVE ARTS ACADEMY

Essential Question(s)
How can we identify and describe patterns using arithmetic and geometric sequences? How can we find the sum of a collection of terms in a sequence?

Focus of the Unit
This unit focuses on defining and analyzing arithmetic and geometric sequences and calculating the sums of finite series

Standards	CC.2.2.HS.C.3

Learning Targets
I can write recursive and explicit rules for arithmetic sequences

Learning Targets
I can write recursive and explicit rules for geometric sequences

Learning Targets
I can find the sum of a finite arithmetic series

Learning Targets
I can derive and use the formula for the sum of a finite geometric series

Resources	HMH Textbook Into Algebra II, iXL

Unit Title	Unit 8: Trigonometric Functions, Data Analysis, Probability, and Statistics
Time Frame	22 days

INNOVATIVE ARTS ACADEMY

Essential Question(s)

How can we use angles and circles to define and evaluate trigonometric functions and model periodic events?
How can collecting, organizing, and interpreting data help us understand chance and make predictions or inferences?

Focus of the Unit

This unit covers trigonometric functions including angle measure and the unit circle, methods for representing, summarizing, and interpreting various types of data, understanding probability concepts, and using statistical methods for inferences.

Standards	CC.2.2.HS.C.4, CC.2.4.HS.B.2, CC.2.4.HS.B.3, CC.2.4.HS.B.4, CC.2.4.HS.B.5, CC.2.4.HS.B.6, CC.2.4.HS.B.7

Learning Targets

I can understand angle measure in radians and use the unit circle.

Learning Targets

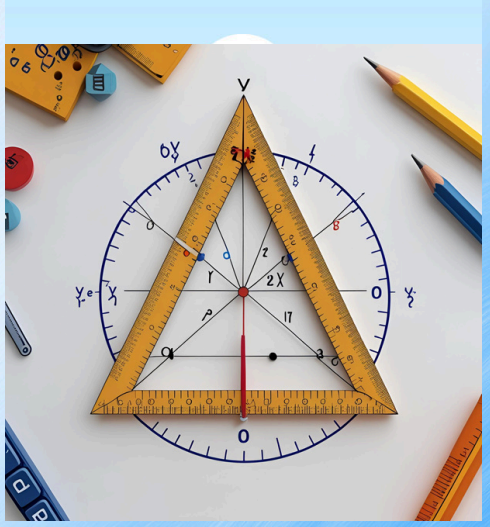
I can define and evaluate trigonometric functions.

Learning Targets

I can represent and interpret data using two-way frequency tables.

Learning Targets

I can understand probability of compound events and concepts of independence.



Resources	HMH Textbook Into Algebra II, iXL