

Options EHS Algebra 2A-OR		Scope and Sequence
Unit	Lesson	Objectives
Expressions and Equations		
	Simplifying Expressions	<p>Identify parts of an algebraic expression</p> <p>Evaluate expressions using the order of operations and the field properties of real numbers.</p> <p>Simplify expressions using the order of operations and the field properties of real numbers.</p>
	Solving Equations	<p>Simplify and solve multistep equations</p> <p>Create multistep equations in one variable and use them to solve problems.</p>
	Inequalities	<p>Solve one-variable linear inequalities, including compound inequalities, and represent the solution sets graphically and algebraically.</p> <p>Create one-variable linear inequalities in one variable and use them to solve problems.</p>
	Unit Test	
Introduction to Functions		
	Relations and Functions	<p>Represent a relation in multiple ways, including equations, graphs, words, and tables of values.</p> <p>Determine if a relation is a function.</p> <p>Determine if the function is one-to-one.</p> <p>Determine the domain and range of a relation.</p> <p>Evaluate function rules.</p>
	Function Operations	<p>Combine functions using arithmetic operations, expressing the results both algebraically and graphically.</p>

Unit Lesson

Objectives

Evaluate sums, differences, products, and quotients of functions.

Composition of Functions

Write an expression for the composition of functions.

Find the domain of the composition of functions.

Evaluate the composition of functions.

Function Inverses

Find the inverse of a function.

Use composition to verify that functions are inverses.

Rate of Change

Calculate the average rate of change of a function over a specified interval.

Interpret the average rate of change of a function over a specified interval.

Solve problems involving direct variation.

Linear Functions

Determine if a function is linear.

Represent a linear relationship numerically, algebraically, and graphically.

Two-Variable Linear Inequalities

Write a linear inequality to model a relationship between two quantities.

Interpret the solution set of a two-variable linear inequality.

Graph two-variable linear inequalities.

Arithmetic Series

Solve problems using the formula for the sum for an arithmetic series.

Unit Test

Unit Lesson

Objectives

Quadratics

Quadratic Functions

Find the line of symmetry and vertex of a parabola given its function rule.

Identify a quadratic function from the function rule.

Use key attributes of a quadratic function to solve word problems.

Solving Quadratic Equations by Factoring

Find real solutions for quadratic equations using the zero product property.

Use key attributes of a quadratic function to solve word problems.

Quadratic Inequalities

Find real solutions of quadratic inequalities algebraically and graphically.

Create quadratic inequalities in one variable and use them to solve problems.

Completing The Square

Recognize the pattern of a perfect-square trinomial as the square of a binomial.

Use the square root property to solve equations.

Find complex solutions to quadratic equations by completing the square.

The Quadratic Formula

Find real and complex solutions of quadratic equations using the quadratic formula.

Use the discriminant to determine the number and type of roots of a quadratic equation.

Modeling with Quadratic Equations

Use quadratic equations to model and solve real-world problems.

Transformations of Quadratic Functions

Unit Lesson**Objectives**

Use completing the square to write quadratic functions in the form $y = a(x - h)^2 + k$.

Describe the effects of changes in a , h , and k to the graph of a function in the form $y = a(x - h)^2 + k$.

Square Root Functions

Find the inverse of a quadratic function.

Find the domain of a square root function.

Unit Test

Inequalities and Systems

Solving Linear Systems Graphically

Solve systems of two-variable linear equations graphically.

Classify systems of two-variable equations as dependent, independent, consistent, or inconsistent.

Solve systems of two-variable linear inequalities.

Solving Linear Systems by Elimination

Solve systems of two-variable linear equations using elimination.

Solving Linear Systems by Substitution

Solve systems of two-variable linear equations using substitution.

Modeling with Linear Systems

Model and solve real-world problems using systems of linear equations and inequalities.

Linear Programming

Maximize a function given constraints.

Represent and solve real-world problems using linear programming.

Mixed Degree Systems

Unit Lesson**Objectives**

Solve linear-quadratic systems of equations.

Solve quadratic-quadratic systems of equations.

Determine the reasonableness of solutions to systems of a linear equation and a quadratic equation in two variables.

Unit Test

Polynomial Operations

Introduction to Polynomials

Identify and classify polynomials.

Write polynomials in standard form.

Addition and Subtraction of Polynomials

Perform addition and subtraction of polynomials.

Laws of Exponents

Apply the properties of whole-number exponents to generate equivalent expressions.

Multiplication of Polynomials

Perform multiplication of polynomials.

Division of Polynomials

Use long division to find quotients of polynomials

Use inverse operations to check the result of polynomial division

Simplifying Polynomial Expressions

Simplify expressions involving operations with polynomials.

Composition of Polynomial Functions

Write the composition of polynomial functions.

Unit Lesson**Objectives**

Evaluate the composition of polynomial functions.

Unit Test

Cumulative Exam

Cumulative Exam Review

Cumulative Exam