

Algebra 2 Syllabus/Standards Centura Public School

Chapter One Lesson Concepts

Identify and describe patterns
Graph and order real numbers
Identify properties of real numbers
Evaluate/simplify algebraic expressions
Write/solve equations
Solve/graph inequalities
Write/solve absolute value equations

Chapter Two Lesson Concepts

Graph relations
Identify functions
Write/interpret direct variation equations
Graph linear equations
Write equations of lines
Model real world data using linear equations
Make predictions from linear models
Analyze transformations of functions
Graph absolute value functions
Graph linear inequalities

Chapter Three Lesson Concepts

Solve linear systems using graphs/tables
Solve linear systems using substitution
Solve systems of linear inequalities
Solve problems using linear programming
Solve systems in three-variables using elimination or substitution

Chapter Four Lesson Concepts

Identify/graph quadratic functions
Graph quadratic functions in standard form
Model data using quadratic functions
Factor quadratic expressions
Solve quadratic equations
Complete the Square
Use Quadratic Formula
Determine the nature of solutions using the Discriminant
Identify, graph, and perform operations with complex numbers

Chapter Five Lesson Concepts

Classify polynomials
Graph and describe behaviors of polynomial functions

Analyze polynomials
Write polynomial functions
Solve polynomial equations
Perform polynomial long division
Use Conjugate Root Theorem and Descartes' Rules of Signs
Use the Fundamental Theorem of Algebra
Apply transformations to graphs of polynomials

Chapter Six Lesson Concepts

Find n th roots
Multiply/divide radical expressions
Add/subtract radical expressions
Use rational exponents
Solve radical equations
Perform all operations using functions
Find composite functions
Find inverse functions
Graph radical functions

Chapter Seven Lesson Concepts

Model exponential growth and decay
Explore properties of exponential functions
Write/evaluate logarithmic expressions
Use properties of logarithms
Solve exponential and logarithmic equations
Evaluate/simplify natural logarithmic expressions
Solve equations using natural logarithms

Chapter Eight Lesson Concepts

Recognize/use inverse variation
Identify/graph properties of rational functions
Simplify rational expressions
Multiply/divide rational expressions
Add/subtract rational expressions
Solve rational equations
Use rational equations to solve applications

Chapter Nine Lesson Concepts (if time)

Identify mathematical patterns found in a sequence
Use a formula to find the n th term of a sequence
Define/identify/ apply arithmetic sequences
Define/identify/apply geometric sequences
Define arithmetic series and find their sums
Define geometric series and find their sums

Chapter Eleven Lesson Concepts (if time)

Count permutations and combinations

Use theoretical, experimental, and simulation methods to find the probability of an event

Find conditional probabilities

Calculate measures of central tendency

Identify sampling methods

Recognize bias in samples and surveys

Use normal distribution