



# Yearly Overview

## ALGEBRAIC REASONING

2024-2025

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## Semester 1

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### Term 1

- **Linear Functions**
  - Writing Linear Functions
  - Modeling Linear Functions
- **Quadratic Functions**
  - Writing Quadratic Functions
  - Modeling Quadratic Functions
- **Exponential Functions**
  - Writing Exponential Functions
  - Modeling Exponential Functions
- **Transformations**
  - Transforming and Analyzing Linear Functions
  - Transforming and Analyzing Quadratic Functions
  - Comparing Sets of Functions

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### Term 2

- **Algebraic Methods (Part 1)**
  - Adding and Subtracting Polynomial Functions
  - Multiplying Linear Functions
  - Compare and Contrast Adding of Linear Functions
- **Decomposition Quadratic Functions**
  - Factoring Polynomials with Graphs and Tables
  - Decomposition of Quadratic Functions
- **Solutions of Equations**
  - Solving Linear and Quadratic Equations
  - Systems of Equations by Graphing
  - Writing Systems of Linear Equations

**Semester Review and Exam**

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## Semester 2

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### Term 3

- **Cubic Functions**
  - Writing Cubic Functions
  - Modeling Cubic Functions
  - Transforming Cubic Functions
  - Analyzing Cubic Functions
- **Absolute Value Functions**
  - Transforming Absolute Value Functions
  - Analyzing Absolute Value Functions
- **Exponential Functions**
  - Transforming Exponential Functions
  - Analyzing Exponential Functions
- **Rational Functions**
  - Transforming Rational Functions
  - Analyzing Rational Functions
- **Inverses of Functions**
  - Generating Inverses of Functions
  - Verifying Inverses of Functions
  - Square Root Functions
  - Cube Root Functions
  - Logarithmic Functions
  - Comparing and Contrasting Sets of Functions
- **Algebraic Methods (Part 2)**
  - Adding Polynomial Functions with Tables and Algebra
  - Subtracting Polynomial Functions with Tables and Algebra
  - Multiplying Polynomial Functions with Tables and Algebra

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### Term 4

- **Algebraic Methods (Part 3)**
  - Dividing Polynomial Functions with Tables and Algebraic Methods
  - Composing Functions
  - Multiple Representations of Combined Functions
- **Matrices**
  - Add, Subtract, Multiply Matrices
  - Solve Systems (Two and Three Linear Equations)
- **Factoring Polynomials Algebraically**
  - GCF
  - $a=1$ ;  $a\neq 1$
  - Special Cases
- **Estimating Solutions**
  - Estimating Function Values
  - Rational, Exponential, Logarithmic, Square Root, and Cubic Functions

### **Semester Review and Exam**

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