

**Central Middle School  
1012 Hancock St  
617-984-8725**

**SYLLABUS**

Teacher: Becca Kronish

**COURSE/GRADE LEVEL** Algebra 1 Advanced, Grade 8

INSTRUCTIONAL MATERIALS

*Algebra 1*

MAJOR TOPICS\*

Connections to Algebra

- Numbers and Number Operations
- Variables in Algebra
- Exponents and Powers
- Order of Operations
- Equations and Inequalities

Rules of Algebra

- Addition and Subtraction of Real Numbers
- Multiplication and Division of Real Numbers
- The Distributive Property
- Rates and Ratios

Solving Linear Equations

- Solving Equations with One Transformation
- Solving Equations with Two or more Transformations

Geometry

- Perimeter, Circumference, Area
- Volume, Surface Area

Graphing Linear Equations

- Graphing Linear Equations in One Variable and Two Variables
- Graphs Using Intercepts
- Slope of a Line
- Slope-Intercept Form
- Absolute Value Equations

Writing Linear Equations

- Equations of Lines using Slope-Intercept Form
- Equations of Lines given the Slope and one Point, given two Points
- Fitting a line to data

Standard Form and Point-Slope Form

Solving and Graphing Linear Inequalities

Solving Inequalities in One Variable

Compound Inequalities

Graphing Linear Inequalities in Two Variables

Solving Systems of Linear Equations

Graphing

Substitution

Linear Combination

Powers and Exponents

Multiplication and Division Properties of Exponents

Negative and Zero Exponents

Scientific Notation

Exponential Models: Growth and Decay

Quadratic Equations

Square Roots, Pythagorean Theorem

Graphs of Quadratic Equations and Inequalities

Quadratic Formula

Problem Solving, Discriminant

Polynomials and Factoring

Adding, Subtracting and Multiplying Polynomials

Factoring Trinomials

Perfect Square Trinomials

**\*Assessment Tools**

MCAS Testing

Exams

Projects

Mid Year Exam

Interdisciplinary activities

Final Exam

Open ended questions

Homework

Objective Tests/Quizzes

**\*See Individual Student Education Plans or 504 Plans for modification where applicable.**