

Point Webster Middle School  
60 Lancaster Street  
Quincy, MA 02169  
617.984.6600

TEACHER: Mr. Marani EMAIL: mmarani@quincy.k12.ma.us  
COURSE/GRADE LEVEL: 8th Grade Pre-Algebra  
TEXTBOOK: Math-Course 3/McDougal Littell

**MAJOR TOPICS:**

**1.VARIABLES AND EQUATIONS**

- Interpret Graphs
- Order of Operations
- Variable Expressions
- Powers & Exponents
- Equations & Solutions
- Familiar Formulas
- Problem Solving

**2.INTEGER OPERATIONS**

- Integers
- Adding, Subtracting, Multiplying & Dividing Integers
- Number Properties
- Distributive Property
- Coordinate Plane

**3.SOLVING EQUATIONS AND INEQUALITIES**

- One-step, Multi-step & Two-step Equations
- Writing equations
- Geometric Formulas
- One-step inequalities

**4. FACTORS, FRACTIONS, AND EXPONENTS**

- Factors & Greatest Common Factors
- Simplifying Fractions
- Least Common Multiples
- Comparing Fractions
- Rules of Exponents
- Negative Exponents
- Scientific Notation

**5. RATIONAL NUMBER OPERATIONS**

- Common & Different Denominators
- Multiplying Fractions

- Dividing Fractions
- Fractions & Decimals
- Adding, Subtracting, Multiplying & Dividing Fractions & Decimals
- Mean, Median, & Mode

## **6. MULTI-STEP EQUATIONS AND INEQUALITIES**

- Multi-step equations
- Collecting Like Terms
- Fractions & Decimals
- Circumference
- Multi-step inequalities

## **7. RATIOS, PROPORTION, AND PERCENT**

- Rates, Ratios & Proportions
- Percent Problems
- Rewriting percents
- Percent of Change
- Percent Applications
- Percent Equation
- Simple Probability

## **8. POLYGONS AND TRANSFORMATION**

- Angle Pairs
- Classifying Triangles
- Quadrilaterals
- Polygons
- Congruent Polygons
- Reflections & Symmetry
- Translations & Rotations
- Similarity & Dilations

## **9. REAL NUMBERS AND RIGHT TRIANGLES**

- Square Roots
- Real Numbers
- The Pythagorean Theorem
- Pythagorean Triplets
- Special Right Triangles
- Trigonometric Ratios

## **10. MEASUREMENT, AREA, AND VOLUME**

- Areas of quadrilaterals & circles
- Solid Figures
- Surface Area
- Volumes

## **11. LINEAR EQUATIONS AND GRAPHS**

- Relations & Functions
- Scatter Plots
- Two-variable equations
- Linear Equation Graphs
- Using Intercepts
- Slope
- Slope-Intercept Form
- Linear inequality graphs

## **12. DATA ANALYSIS AND PROBABILITY**

- Stem-and-Leaf Plots
- Box-and-Whisker Plots
- Using data displays
- Counting methods
- Permutations
- Combinations
- Probability & Odds
- Probability of Events

## **13. POLYNOMIALS AND FUNCTIONS**

- Polynomials
- Adding Polynomials
- Monomials & Powers
- Multiplying Binomials
- Non-Linear Functions

## **MATERIALS NEEDED**

1 notebook, spiral bound or binder (cannot be combined with other classes), pen or a pencil, folder (cannot be combined with other classes), and the agenda

## **ASSESSMENT TOOLS**

Rubrics, Notebooks, Open Response Questions, Word Problems, Tests/Quizzes, Homework, Projects, and Presentations

## **GRADING POLICY**

Tests: 33.3%

Quizzes: 33.3%

Homework: 33.3%

## **MAKE-UP PROCEDURE**

Students are expected to make-up any missed work that they have missed due to absence. It is their responsibility to seek out the teacher to make arrangements to make-up work. Make-up Tests/Quizzes will NOT be given during class time.

**\*ADJUSTMENTS MAY BE MADE IN THIS SYLLABUS TO MEET INDIVIDUAL STUDENT NEEDS\***