

Algebra I
Mrs. Gomez
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Course Description:

Algebra I include the introduction of variables, constants, expressions, equations, and functions. The language of numbers is examined. Topics include solving equations, simplifying expressions, understanding order of operations, performing operations with positive and negative numbers, exploring polynomials, factoring, graphing (linear and quadratic equations), working with radicals, and expanding arithmetic knowledge.

Course Objective:

Students will acquire and demonstrate knowledge of concepts, definitions, properties, and applications of the topics listed above as well as develop the computational skills and strategies needed to solve problems. Students will develop critical thinking and decision-making skills by connecting concepts to practical applications.

Grading Policy:

60% Major Assignments (Exams)

40% Minor Assignments (Daily Classwork, Homework & Quizzes)

see district grading policy for specifications

No Late Work is Accepted

Required Materials:

- Pencils/Pens
- Spiral Notebook
- Interactive Math Journal Pearson (School Provided)
- Ti Calculator (School Provided) or Download the Free Trial
- <https://education.ti.com/en/downloads/trial-software>
- Charging Cable for Ti Calculator (School Provided)

Expectations:

- Be on time and be prepared.
- Bring all materials to class.
- Be prepared and ready to work as soon as the Google Class Begins.
- Sit quietly and be attentive while the teacher is addressing the class.
- Stay in your seat during class time and raise your hand to be recognized.
- Turn in assignments on time (no late work will be accepted).
- Ask for any missed work due to an excused absence.
 - If absent during test day, you will be able to take the test before or after school only.
- Follow all school rules at all times.
- Stay on task until the class is over.

- Take notes every day and keep a neat and well-organized Math Interactive Journal.
- There will be no food or drinks allowed in class, only water.

Chapter 1 – Solving Equations and Inequalities

- 1-1 Solving Multi-Step Equations
- 1-2 Solving Equations with Variables on Both Sides
- 1-3 Literal Equations
- 1-4 Solving Proportions
- 1-5 Proportions and Similar Figures
- 1-6 Solving Multi-Step Inequalities
- 1-7 Compound Inequalities

Chapter 2 – An Introduction to Functions

- 2-1 Using Graphs to Relate Two Quantities
- 2-2 Patterns and Linear Functions
- 2-3 Patterns and Nonlinear Functions
- 2-4 Graphing a Function Rule
- 2-5 Writing a Function Rule
- 2-6 Formalizing Relations and Functions
- 2-7 Using Function Notation

Chapter 3 – Linear Functions

- 3-1 Rate of Change and Slope
- 3-2 Direct Variation
- 3-3 Slope-Intercept Form
- 3-4 Point-Slope Form
- 3-5 Standard Form
- 3-6 Parallel and Perpendicular Lines
- 3-7 Transformations of Linear Functions
- 3-8 Scatter Plots and Trend Lines

Chapter 4 – Systems of Equations and Inequalities

- 4-1 Solving Systems by Graphing
- 4-2 Solving Systems Using Substitution
- 4-3 Solving Systems Using Elimination
- 4-4 Applications of Linear Systems
- 4-5 Linear Inequalities
- 4-6 Systems of Linear Inequalities

Chapter 5 – Exponents and Radicals

- 5-1 Zero and Negative Exponents

- 5-2 Multiplying Powers with the Same Base
- 5-3 More Multiplication Properties of Exponents
- 5-4 Division Properties of Exponents
- 5-5 Rational Exponents and Radicals
- 5-6 Simplifying Radicals
- 5-7 The Pythagorean Theorem

Chapter 6 – Sequences

- 6-1 Arithmetic and Geometric Sequences
- 6-2 Arithmetic Sequences in Recursive Form
- 6-3 Geometric Sequences in Recursive Form

Chapter 7 – Polynomials and Factoring

- 7-1 Adding and Subtracting Polynomials
- 7-2 Multiplying and Factoring
- 7-3 Multiplying Binomials
- 7-4 Multiplying Special Cases
- 7-5 Factoring
- 7-6 Factoring
- 7-7 Factoring Special Cases
- 7-8 Factoring by Grouping
- 7-9 Simplifying Rational Expressions
- 7-10 Dividing Polynomials

Chapter 8 – Quadratic Functions and Equations

- 8-1 Quadratic Graphs and Their Properties
- 8-2 Quadratic Functions
- 8-3 Transformations of Quadratic Functions
- 8-4 Vertex Form of a Quadratic Function
- 8-5 Solving Quadratic Equations
- 8-6 Factoring to Solve Quadratic Equations
- 8-7 Writing Quadratic Functions
- 8-8 Completing the Square
- 8-9 The Quadratic Formula and the Discriminant

Chapter 9 – Exponential Functions and Equations

- 9-1 Exponential Functions
- 9-2 Exponential Growth and Decay
- 9-3 Modeling Exponential Data

Tutoring: Thursdays 4-15-5:15pm.