

Algebra I 2023-2024

Session 4

Instructor: Laura Erlig

Objective:

A high-school level class in the language and practice of math, aligned with the Common Core Standards for 9th grade. This class will prepare students to successfully demonstrate their mastery of elementary algebra skills on high school placement tests. Equally important, this class will prepare students to use algebra to understand and solve real-world problems in math, science, and life. This class is a fast paced class designed to complete algebra, but we only meet twice a week and in order to complete the class students must complete a lot of work independently and come prepared with questions and completed work. Class will incorporate warm-ups designed to reinforce what was learned to see readiness of students for new material. If a student is not ready, then additional work may be required to keep up with the pace of the class. Once students are assessed, students may be asked to complete some work prior to starting class to be ready for the in coming lessons.

Materials:

Single subject spiral bound notebook (look for 100+ pages), graph paper, lined paper, pencil, scientific calculator (TI-84 Plus suggested), ruler. All other materials will be provided.

Resources:

- As our core textbook, we will use the 2014 edition of Glencoe Algebra 1.
- We will use Google Classroom as a hub for class information with assignments and feedback.

Session 4 Topics:

Chapter 8

- Differences of Squares
- Perfect Squares

Chapter 9

- Perfect Squares
- Solving Quadratic Equations by Graphing
- Transformations of Quadratic Functions
- Solving Quadratic Equations by Completing the Square
- Solving Quadratic Equations by Using the Quadratic Formula
- Analyzing Functions with Successive Differences and Ratios

Chapter 10

- Square Root Functions
- Simplifying Radical Expressions
- Operations with Radical Expressions
- Radical Equations
- The Pythagorean Theorem
- Trigonometric Ratios

Chapter 11

- Inverse Variation
- Rational Functions
- Simplifying Rational Expressions
- Multiplying and Dividing Rational Expressions
- Dividing Polynomials
- Adding and Subtracting Rational Expressions
- Mixed Expressions and Complex Fractions
- Rational Equations

Chapter 12

- Samples and studies
- Statistics and parameters
- Distributions of Data
- Comparing Sets of Data
- Simulation
- Permutations and Combinations
- Probability and Compound Events
- Probability Distributions

Expectations:

- Participate in class, including asking for help or questions.
- Do your best to achieve personal goals.
- Complete homework assigned.
- Watch the assigned video/s and take notes in a spiral notebook.
- Check on Google Classroom for assignments and progress of completed work.

Tips:

- Use your time wisely in class and at home. If you are distracted, the work will take much longer.
- Check Google Classroom daily.
- Show your work! That way we can figure out which steps you're not understanding.
- Practice things you do not understand and ask for help when needed.
- Know your multiplication tables by memory, long division with ease, +, -, x, / of rational numbers, percent proportion, perimeter, area, volume, and surface area.

Rubric:

- 50% Assessments (include quizzes, tests, and projects weighted by the number of points assigned)
- 25% Independent practice (include homework and classwork)
- 20% Participation (actively asking questions, answering questions, and being productive in class)
- 5% Attendance (being on time and prepared for class)