

Algebra I 2020-2021

Fall 2020 - Session 1 (online)

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syllabus v1.00

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.

Topics Covered:

- Relationships between quantities
 - Expressions, equations and functions
 - Linear equations
- Linear Relationships
 - Linear Functions
 - Equations of linear functions
- Linear Inequalities
 - Solving and graphing simple inequalities
 - Solving and graphing compound inequalities, or inequalities with absolute value.

Session 1 Project

Algebraic game design – Collaboratively create a graphing-based game that can be played with people online.

Materials:

- **Reliable Wi-Fi connection**
- **Zoom-capable device**
- **EFFECTIVE writing tablet and stylus**
 - Wacom Intuos highly recommended (as on Amazon [here](#)). For context, I have a 2-in-1 laptop with a touch sensitive screen. My attempts at using the screen for handwriting have been quite frustrating. It just isn't built for that level of precision.
- **CamScanner**
 - Free phone app for turning documents into pdfs. Will be used for homework submission.
- **Textbook**
 - 2012 edition of Glencoe Algebra 1, ISBN: 9780076639236
- **Graphing Calculator**
 - TI-84 Plus: NOT the CE edition, just the regular TI-84 Plus.
- **Physical learning materials**
 - Pencil, eraser, ruler

Resources:

We will use Edmodo as a hub for class information, and will keep the class page up-to-date with assignments, schedules, feedback.

Rough Schedule of Topics and Events

(subject to change as needed)

Week 1: Introductions

- Human Introductions
- Technological tools for algebra, remote learning, and online communities

Week 2: Ch 2

- Equations with Absolute Value
- Literal Equations and Dimensional Analysis
- Weighted averages

Week 3: Ch 3

- Graphing Linear Equations
- Direct Variation
- Graphing on a graphing calculator
- Linear Functions

Week 4: Ch 3 (cont.)

- Arithmetic sequences
- Story-based proportional situations
- Review

Week 5: Test #1 & Ch 4

- Test #1 (Ch 2 & Ch 3)
- Slope-Intercept Form

Week 6: Ch 4 (cont.)

- Point-Slope Form
- More graphing on a graphing calculator
- Parallel and Perpendicular lines

Week 7: Project – Online Algebraic Game

- Design a graphing-based game that can be played online