

Algebra 1-1 Syllabus and Course Policies

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Algebra 1, part 1 is a full-year course. Students in this course will complete the Algebra 1 curriculum over the course of two years and will be enrolled in Algebra 1, part 2 next school year. The topics in this course are listed below in the order they will be covered:

Pre-Algebra Review (~ 8 classes)

- Adding/Subtracting with $\pm$ Real Numbers

- Multiplying/Dividing with $\pm$ Real Numbers

- Four Operations with Fractions

- Decimals/Percents/Ratios

- Number Line & Plotting Points (rational & irrational)

- Greatest Common Factor (GCF) and Least Common Multiple (LCM)

Unit 1: Expressions, Equations, and Functions (~12 classes)

- Evaluate Expressions

- Order of Operations (PEMDAS / GEMDAS)

- Writing Expressions

- Writing and Equations and Inequalities

- Problem Solving (steps, procedures, and helpful hints)

- Precision and Measurement

- Represent Functions Using Rules and Tables

- Represent Functions Graphically

[End Q1]

Unit 2: Solving Linear Equations (~11 classes)

- Finding and Approximating Square Roots

- Solving one-step equations

- Solving two-step equations

- Solving multi-step equations

Solving Equations with Variables on Both Sides

Ratios and Proportions with Variables

- Using Equivalent Fractions
- Cross Multiplication

Solve (Rewrite) Equations for a Specific Variable

Unit 3: Graphing Linear Equations and Functions (~ 10 classes)

Coordinate Plane

- Plotting Points
- Naming Quadrants
- Axes labels / Dependant & Independent Variables

Graphing a Line Using Intercepts

Graphing a Line using Slope and Point

Finding Slope from a Graph

Graph Using Slope-Intercept and Point-Slope Forms

Comparing Graphs

Real-World Graphing Applications

Mid-Year Review

[End Q2]

Midterm Exam

Unit 4: Writing Linear Equations (~11 classes)

Writing Equations in Slope-Intercept Form

- From Data in a Table
- From a Graph
- Applications

Writing Equations in Point-Slope Form

- From Data in a Table
- From a Graph

Writing Equations in Standard Form

- From Data in a Table
- From a Graph

Writing Equations of Parallel and Perpendicular Lines

Making Predictions Using Lines

- From a Graph
- From an Equation

Unit 5: Single-Variable Inequalities (~10 classes)

Review of Symbols ($>$, $<$, $\geq$, $\leq$) & How to Graph

Interval Notation

Solving and Graphing Inequalities Using Addition and Subtraction

Solving and Graphing Inequalities Using Multiplication and Division

Solving & Graphing Multi-step Inequalities

Solving & Graphing Compound Inequalities

Solving & Graphing Absolute Value Inequalities [End Q3]

Unit 6: Systems of Equations and Inequalities (~12 classes)

Solving Linear Systems by Graphing

Solving Linear Systems by Substitution

Solving Linear Systems by Elimination (basic, no LCM)

Solving Linear Systems by Elimination (find LCM)

Special Case Systems

- No Solutions / Parallel Lines
- Infinite Solutions / Coinciding Lines

Graphing Linear (Two-variable) Inequalities

- On Paper
- Using Desmos

Writing Systems of Linear Inequalities from Given Scenarios

Solving Systems of Linear Inequalities

- Using Desmos
- Applications (maximizing and minimizing profits)

Year-in-Review

Final Project [End Q4]

Final Exam

We will be using a variety of online tools and resources to research, calculate, simulate, and produce deliverables. Students will actively participate in projects, discussions, simulations, and assessments.

Our Class is a Community:

Every person in this class is entitled to the following:

- The right to feel both safe and comfortable at all times while class is in session.
- The right to an environment conducive to learning, free from excessive distraction.
- The right to share any appropriate thought or inquiry without risk of judgment or discrimination.

Attendance:

- Students are expected to be on time to class. Attendance will be taken at the beginning of class. Tardiness of more than 5 minutes will be noted.

Assessment: How will I check to see what you're learning?

- Projects
- In-class activities and assignments
- Formal formative and summative assessments
- Journals and discussions*
- Participation, attitude, and behavior*
- Final Exam

* Although not necessarily assessments, these factors are considered as part of your grade for this course.

Grades: How is your yearly grade calculated?

- Your grade for each quarter will be based on your participation and performance on formal assessments, projects, occasional homework and in-class activities.
- Point values will be given to you in advance of each activity.
- The grade for each quarter is determined by dividing the total points earned by the total points possible.
- Each quarter represents **20%** of your final grade; each exam is worth **10%** of your final grade. Continue to the next page to explore a sample student's grades.

Sample Student Grades

Term	Points Earned / Points Possible	Decimal	Percentage
Q1	125 / 150	0.8333	83.33%
Q2	142/160	0.8875	88.75%
Midterm Exam	87/100	0.87	87%
Q3	132/145	0.9103	91.03%
Q4	120/140	0.8571	85.71%
Final Exam	91/100	0.91	91%

Final Grade Calculation:

$$2(83.33) + 2(88.75) + 87 + 2(91.03) + 2(85.71) + 91 = 875.64$$

$$875.64/10 = 87.56\% \approx 88\%$$

Why did I divide by 10?

Each semester counts twice as much as each exam. So, the yearly grade is essentially made up of ten scores:

$Q1 + Q1 + Q2 + Q2 + \text{Midterm} + Q3 + Q3 + Q4 + Q4 + \text{Final} = \text{Total}$

$\text{Total} / 10 = \text{Mean} \leftarrow \text{your final grade}$