

Algebra 1 Summer Review Assignment - 2025-2026 School Year

DUE DATE: September 9th, 2025

Course Description: This course marks the beginning of many students' high school math career. Algebra I sets up a strong foundation in a variety of numerical operations that will allow students to more easily understand and engage with complex math and science topics. The course's main focus is on understanding of basic mathematical modeling through variables. Being able to appropriately use numbers and variables to represent real world scenarios can greatly improve the value of math for students, as well as their interest level. This goal is achieved through frequent introduction of word problems in each unit, as well as projects that test content knowledge and provide students some agency and creative freedom over their work. Special attention is also given to graphing lessons, since graphs are one of the primary ways data is presented and being able to read and understand them is critical.

Specific Topics include: Solving equations and inequalities, polynomials, factoring, algebraic fractions, the Cartesian plane, quadratic equations and graphing linear and systems of equations and inequalities.

Purpose of this assignment:

To ensure students are adequately prepared for the topics that will be explored in this class, this summer assignment is meant to encourage students to review and practice previously learned concepts, and learn anything they may have missed. These concepts will be briefly reviewed and tested within the first 2 weeks of school, before jumping into the main curriculum.

Instructions:

For HW over the summer, you will be tasked with completing the Pre-Algebra course on Khan Academy.

-Begin by heading to this link: <https://www.khanacademy.org/math/pre-algebra>. Once there, create an account if you do not already have one (so that your progress will be saved)

-The Pre-Algebra Course has 15 units. **Over the course of the Summer, your goal should be to watch all of the videos, and complete each of the practice sets and assessments.**

-While this may seem like a lot, the idea is to break it up into small pieces, and work on a unit or 2 each week. To that end, **I recommend setting a time for yourself (weekly or daily) to sit down and look at math for a while. Do not leave it all until the last minute**

-**Your benchmark for completing the course should be making sure you are proficient in all of the skills (marked with filled purple boxes on each on Khan Academy), or if you want to go further, reaching mastered level with each skill. You will need to show completion of each unit when you return**

- **In addition, you will need to make an outline with notes on equations, relationships, and concepts you learned in each unit (handwritten or typed). There is no specific length, but it should be neat and include summaries of every topic**

Deliverables:

-Summary/Outline of course content

-Pictures of your account with completed videos and proficient skills

Additional Note:

Aside from the problem solving section, **it is intended that you do the majority of this assignment without a calculator whenever possible**, to practice your own skill working with numbers. You should only use a calculator when absolutely necessary/instructed by Khan Academy.

Topics covered on this assignment:

- Factors and Multiples
- Patterns
- Ratios and Rates
- Percentages
- Exponents and Order of Operations
- Variables and Expressions
- Equations and Inequalities Introduction
- Percent and Rational Number Word Problems
- Proportions
- One and Two Step Equations
- Roots, Exponents, Scientific Notation
- Multi-Step Equations
- Two-variable Equations
- Functions and Linear Models

Helpful Resources: If at any point during the assignment you need a refresher on the topic, or to learn it for the first time, don't be afraid to look for video tutorials and articles on the internet. Here are some good sites that I recommend using as reference when needed. **It is intended that you practice searching for the guidance you need on the internet for this assignment.** Algebra is one of the most documented subjects on the internet, learning to find content that helps you learn now will come in handy during your educational career. **Remember to search for an explanation of the process, not just the answer to a specific question!**

- [Math is Fun \(mathsisfun.com\)](http://mathsisfun.com)
- [Pre-algebra | Khan Academy](#)
- [Algebra 1 | Math | Khan Academy](#)
- [Free and clear online algebra help! | Purplemath](#)