

Pre-Algebra

Course Number: MA1100

Grade level: 8

Credits: 1.0

Prerequisite Courses: 7th Grade Math

Course Description

Supporting students' needs for engaging and interactive instruction, MA1100 is a two-semester course that encourages students to apply previously learned skills to more advanced problems in an effort to gain mastery of algebraic concepts. This course, intended for high school students, covers familiar topics—such as statistical data, ratios, proportions and percentages, spatial thinking, sequences and patterns, and polynomials and functions—in a more comprehensive manner that challenges students in preparation for more complex subjects.

Course Objectives

Throughout the course, you will meet the following goals:

- Perform operations with rational numbers and use them to simplify expressions
- Use mathematical and algebraic expressions and equations to represent and solve a variety of mathematical and real-world problems
- Understand the concept of a function and its use in representing relationships
- Exercise proportional thinking and use it to analyze the connection between ratio, proportion, and percent
- Understand geometric concepts and strengthen spatial reasoning
- Develop and use problem-solving strategies
- Use statistics to display, describe, and analyze data
- Understand counting methods, and apply them to calculate probabilities

Student Expectations

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5–7 hours per week online on the following activities:

- Interactive lessons that include a mixture of instructional videos and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments including quizzes, tests, and cumulative exams

Communication

Your teacher will communicate with you regularly through discussions, e-mail, chat, and system announcements. Through this communication with your teacher, you will monitor your progress through the course and improve your learning by reviewing material that was challenging for you.

You will also communicate with classmates, either via online tools or face-to-face, as you do the following:

- Collaborate on projects
- Ask and answer questions in your peer group
- Develop speaking and listening skills

Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Assignments	10%
Labs	0%
Lesson Quizzes	20%
Unit Tests	50%
Cumulative Exams	20%
Additional	0%

Scope and Sequence

When you log into the Virtual Classroom, you can view the entire course map, which provides a scope and sequence of all topics you will study. Clicking a lesson's link in the course map leads to a page listing instructional activities, assignments, and learning objectives specific to that lesson. The units of study are summarized below.

- Unit 1:** Variables and Expressions
- Unit 2:** Equations
- Unit 3:** Number Theory
- Unit 4:** Rational Numbers
- Unit 5:** Ratio, Proportion, and Percent
- Unit 6:** Equations and Inequalities
- Unit 7:** Functions and Graphing
- Unit 8:** Spatial Thinking
- Unit 9:** Area and Volume
- Unit 10:** Right Triangles in Algebra
- Unit 11:** Statistics
- Unit 12:** Probability
- Unit 13:** Sequences
- Unit 14:** Polynomials and Nonlinear Functions