# Pre-Algebra
## Course Overview and Syllabus

**Course Number:** 2217                    **Grade Level:** 8

**Prerequisite Courses:** Mathematics 7                    **Credits:** 1.0

## Course Description

This yearlong course begins with a unit on input-output relationships that builds a foundation for learning about functions. Students make connections between verbal, numeric, algebraic, and graphical representations of relations and apply this knowledge to create linear functions that can be used to model and solve mathematical and real-world problems. Technology is used to build deeper connections among representations. Students focus on formulating expressions and equations, including modeling an association in bivariate data with a linear equation, and writing and solving linear equations and systems of linear equations. Students develop rules of exponents and use them to simplify exponential expressions. Students extend rules of exponents as they perform operations with numbers in scientific notation. Estimating and comparing square roots of non-perfect squares to perfect squares exposes students to irrational numbers and lays the foundation for applications such as the Pythagorean Theorem, distance, and volume.

## 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, including linear functions, and its use in representing relationships.
- Exercise proportional thinking and use it to analyze the connection between ratio, proportion, and percent.
- Develop and use problem-solving strategies.
- Understand counting methods, and apply them to calculate probabilities.

The course objectives are implemented throughout specific lessons, focusing on applying theorems and properties to equations, using mathematical reasoning to construct arguments and solving real world and mathematical problems.

The lesson objectives are assessed through assignments, quizzes, unit tests, performance tasks and cumulative exams.

**✕ Edgenuity**™

## Student Expectations

This course requires the same level of commitment from you as a traditional classroom course. Students are expected to spend approximately five to seven hours per week online on:

- 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, and will provide you with hours of availability, contact policies, and any synchronous attendance requirements. You will also communicate with classmates, either via online tools or face to face, as you collaborate on projects, ask and answer questions in your peer group, and develop your 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.

| Grading Category | Weight |
|---|---|
| Lesson Quizzes | 20% |
| Unit Tests | 30% |
| Cumulative Exams | 20% |
| Assignments | 20% |
| Projects | 10% |

## Scope and Sequence

When you log into Edgenuity, you can view the entire course map—an interactive scope and sequence of all topics you will study. The units of study are summarized below:

**Unit 1:** Input-Output Relationships

**Unit 2:** Linear Functions

**Unit 3:** Writing Equations for Linear Relationships

**Unit 4:** Linear Expressions

**Unit 5:** Linear Equations and Inequalities

**Unit 6:** Patterns in Bivariate Data

**Unit 7:** Probability and Sampling

**Unit 8:** Working with Exponents

**Unit 9:** Pythagorean Theorem and Irrational Numbers

**Unit 10:** Three-Dimensional Geometry

**Edgenuity**™

## Standards Alignment

The course was designed to meet the requirements of the 2016 Oklahoma Academic Standards for Mathematics. The standards aligned to each lesson are available in the student portal in the lesson information panel.

## Materials and Technology Requirements

All course materials are provided through the student portal. You will become familiar with them through an orientation video and the student handbook. These resources are available within the Student Organizer, where you can also check the status of your operating system, processor speed, plug-ins and connection speed.

## Accessibility

The course is designed for accessibility to all students. The system provides features and accommodations to meet the needs of ELL and students with IEP's, 504 plans, and Section 508. These accommodations include addressing multiple learning styles, accommodations for assessments, video caption/transcripts, read-aloud and translation tools, and many other features/accommodations.