Accelerate to Algebra 1

Credits: 0.5

Course Overview and Goals

Accelerate to Algebra 1 is a short course designed to prepare you for success in Algebra 1. It focuses on reviewing the essential skills and mathematical concepts that serve as the foundation for your upcoming learning. You will apply your understanding of algebraic techniques for representing relationships and use these relationships to solve problems. You will also explore how statistics and probability can be used to draw conclusions and make predictions.

By the end of this course, you will be able to do the following:

- Rewrite and interpret expressions using algebraic properties.
- Use proportional relationships to represent and solve problems.
- Write one-variable and two-variable linear equations and use them to solve problems.
- Identify and interpret key features of linear functions.
- Describe correspondences among representations of functions.
- Solve systems of linear equations using algebraic methods.
- Apply probabilities and use random samples to make inferences about populations.
- Analyze, interpret, and represent data in tables, graphs, and charts.
- Represent data with scatter plots and apply mathematical models to solve problems.

Course Components and Grading Rubric

The table gives a breakdown of the weight for each component in the course. Weight represents the percentage of the total score coming from each activity.

Course Components	Count	Weight*
Pretest. *A pretest is an optional assessment, typically designed for credit recovery. If a student shows mastery of a lesson objective, the student may be automatically exempted from the upcoming activities associated with the mastered objective. Pretests are not included as a component of the student's final grade.*	1	0%

Course Components	Count	Weight*
Module. *Each module in this course contains an interactive tutorial or study and an associated mastery test. Tutorials and studies combine instruction and practice to prepare students for the mastery test, which is a computer-scored lesson-level summative assessment. The module score comes from a student's score on the mastery test.*	14	50%
Posttest. *A posttest appears at the end of each unit.*	1	50%
Total	**16**	**100%**

Weight Teachers may manually adjust these weights if desired, per district grading requirements.*

Scope and Sequence

ESSENTIAL LEARNING

Lesson	Lesson Objective
Syllabus	Review the Course Syllabus at the beginning of the course.
Add, Subtract, Multiply, and Divide Rational Numbers to Solve Real-World Problems	In this lesson, you will use the four operations to solve real-world and mathematical problems that contain rational numbers.
Real Numbers	In this lesson, you will use decimal expansion to understand the real number system.
Equivalent Expressions	In this lesson, you will rewrite expressions in different forms to show how quantities are related.
Solving Linear Equations	In this lesson, you will solve linear equations with rational coefficients.
Representing Proportional Relationships with Equations	In this lesson, you will use equations to represent proportional relationships.

Lesson	Lesson Objective
Applications of Ratio and Percent	In this lesson, you will use proportional relationships to solve ratio and percent problems.
Slope	In this lesson, you will graph proportional relationships, interpreting the unit rate as the slope.
Equations of a Line	In this lesson, you will use similar triangles to explain why the slope is the same between any two points and derive the equations $y = mx$ and $y = mx + b$.
Constructing and Interpreting Functions	In this lesson, you will construct and interpret functions given in verbal descriptions, two coordinate values, tables, or a graph.
Solving Systems of Linear Equations Algebraically	In this lesson, you will solve a system of linear equations algebraically.
Sample Spaces for Compound Events	In this lesson, you will show possible outcomes for compound events in organized lists, tables, and tree diagrams.
Making Predictions Based on Random Samples	In this lesson, you will use data from a random sample to draw conclusions about a population.
Comparing Data Distributions	In this lesson, you will determine the amount of overlap for two data distributions that have similar variabilities.
Scatter Plots with Linear Associations	In this lesson, you will informally fit lines to model data in scatter plots.