

Mathematics Standards: Algebra – Creating Equations

Grades 9 – 12

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Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. *For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.*
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law $V = IR$ to highlight resistance R .*

Description

- These Standards define what students should understand and be able to do in their study of mathematics. The Standards set grade-specific standards but do not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations.
- *The complexity options for these standards assure that all students, including those with the significant cognitive disabilities, have access to these core standards through appropriate instructional tasks.*

Mathematics Standards: Algebra – Creating Equations Extended Standards

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Essence of the Standards:

- *Create equations to solve problems with one variable.*
- *Graph equations on a coordinate plane.*

Most Complex ←

→ Least Complex

Create equations that describe numbers or relationships.

A.CE.912.1a Represent a real-world situation with a linear equation or inequality.

A.CE.912.1b Represent a real-world situation with a linear equation.

A.CE.912.1c Represent a real-world situation using concrete objects, models and pictures.

A.CE.912.2a Graph a given equation or inequality on a coordinate plane.

A.CE.912.2b Graph a given equation on a coordinate plane.

A.CE.912.2c Identify whether a line is increasing or decreasing on a coordinate plane.