

Algebra I Overview

Algebra I instructional time should focus on two main areas: Operations with Linear Equations and Inequalities and Linear Equations and Data Organizations as stated on the Pennsylvania Anchors and Eligible Content document (see link below).

The study of Equations and Inequalities include writing an equation based on a context and representing the situation using multiple representations. Students will solve equations as well as graph them by hand and on a graphing calculator. They will solve and graph linear inequalities including compound and absolute value inequalities. In order to solve equations and inequalities and justify their steps, students will also work extensively with converting between one form of a number and another, order of operations, evaluating expressions, algebraic properties, properties of exponents, and radicals. Students will also solve and graph systems of linear equations and inequalities in two variables.

The study of Connections to Functions and Modeling begins with extensive work with patterning and connecting a model to other representations. It includes recognizing that expressions can define functions and equivalent expressions define the same function. Asking when two functions have the same value for the same input leads to an equation; graphing the two functions allows for finding approximate solutions of the equation. Converting a verbal description to an equation, inequality, or system of these is an essential skill in modeling. An extensive study of Data, including interpreting data, using measuring of dispersion and using data displays is also included as is applying probability to practical situations.

Reference:

<http://static.pdesas.org/content/documents/Algebra%20I%20Assessment%20Anchors%20and%20Eligible%20Content%20April%202014.pdf>