

Mathematics: Algebra I

The Real Number System N-RN

3 Explain the pattern for the sum or product for combinations of rational and irrational numbers. LC.A1: N-RN.B.3

Quantities N-Q

1a Determine the necessary unit(s) to use to solve real-world problems. LC.A1: N-Q.A.1A

1b Solve real-world problems involving units of measurement LC.A1: N-Q.A.1B

Seeing Structure in Expressions A-SSE

3 Factor a quadratic expression. LC.A1: A-SSE.B.3

Arithmetic with Polynomials and Rational Expressions A-APR

1a Understand the definition of a polynomial. LC.A1: A-APR.A.1A

1b Understand the concepts of combining like terms and closure. LC.A1: A-APR.A.1B

1c Add, subtract, and multiply polynomials and understand how closure applies under these operations. LC.A1: A-APR.A.1C

3 Find the zeros of a polynomial when the polynomial is factored. LC.A1: A-APR.B.3

Creating Equations A-CED

1 Translate a real-world problem into a one variable linear equation. LC.A1: A-CED.A.1

4 Solve multi-variable formulas or literal equations, for a specific variable. LC.A1: A-CED.A.4

Reasoning with Equations and Inequalities A-REI

4a Transform a quadratic equation written in standard form to an equation in vertex form $(x - p) = q^2$ by completing the square. LC.A1: A-REI.B.4A

4b Derive the quadratic formula by completing the square on the standard form of a quadratic equation. LC.A1: A-REI.B.4B

4c Solve quadratic equations in one variable by simple inspection, taking the square root, factoring, and completing the square. LC.A1: A-REI.B.4C

5 Solve systems of equations using the elimination method (sometimes called linear combinations). LC.A1: A-REI.C.5

6a Solve a system of equations by substitution (solving for one variable in the first equation and substitution it into the second equation). LC.A1: A-REI.C.6A

6b Solve systems of equations using graphs. LC.A1: A-REI.C.6B

10 Understand that all solutions to an equation in two variables are contained on the graph of that equation. LC.A1: A-REI.D.10

11 Explain why the intersection of $y = f(x)$ and $y = g(x)$ is the solution of the equation $f(x) = g(x)$ for any combination of linear or exponential. Find the solution(s) by: Using technology to graph the equations and determine their point of intersection, Using tables of values, or Using successive approximations that become closer and closer to the actual value. LC.A1: A-REI.D.11

12a Graph the solutions to a linear inequality in two variables as a half-plane, excluding the boundary for non-inclusive inequalities. LC.A1: A-REI.D.12A

12b Graph the solution set to a system of linear inequalities in two variables as the intersection of their corresponding half-planes. LC.A1: A-REI.D.12B

**Interpreting Categorical
and Quantitative
Data** S-ID

2a Use descriptive stats; range, median, mode, mean, outliers/gaps to describe the data set. LC.A1: S-ID.A.2A

2b Compare means, median, and range of 2 sets of data. LC.A1: S-ID.A.2B

6a Represent data on a scatter plot to describe and predict. LC.A1: S-ID.B.6A

6b Select an appropriate statement that describes the relationship between variables. LC.A1: S-ID.B.6B

7 Interpret the rate of change using graphical representations. LC.A1: S-ID.C.7