

Bloomfield Prioritized Standards Grades 9-12
Algebra II

Number and Quantity

The Real Number System

Extend the properties of exponents to rational exponents.

CC.9-12.N.RN.1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{(1/3)}$ to be the cube root of 5 because we want $[5^{(1/3)}]^3 = 5^{[(1/3) \times 3]}$ to hold, so $[5^{(1/3)}]^3$ must equal 5.

Number and Quantity

Vector and Matrix Quantities

Represent and model with vector quantities.

CC.9-12.N.VM.1 (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v , $|v|$, $\|v\|$, v).

Number and Quantity

Vector and Matrix Quantities

Perform operations on matrices and use matrices in applications:

CC.9-12.N.VM.6 (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.

Algebra

Seeing Structure in Expressions

Interpret the structure of expressions

CC.9-12.A.SSE.1 Interpret expressions that represent a quantity in terms of its context.*

Algebra

Creating Equations*

Create equations that describe numbers or relationships

CC.9-12.A.CED.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.*

CC.9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

Algebra

Reasoning with Equations and Inequalities

Solve systems of equations.

CC.9-12.A.REI.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Functions

Interpreting Functions

Interpret functions that arise in applications in terms of the context. **CC.9-**

12.F.1F.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*

Geometry

Similarity, Right Triangles, and Trigonometry

Apply trigonometry to general triangles:

CC.9-12.G.SRT.10 (+) Prove the Laws of Sines and Cosines and use them to solve problems.

Apply trigonometry to general triangles:

CC.9-12.G.SRT.11 (+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).