High School—Algebra I

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Algebra I

Number and Quantity

The Real Number System (N-RN)

Use properties of rational and irrational numbers

N-RN.3	Explain why: . the sum or product of two rational numbers is rational; . the sum of a rational number and an irrational number is irrational; and . the product of a nonzero rational number and an irrational number is irrational.

Algebra I

	Solve quadratic equations in one variable.
	  a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
	  b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions.

A-REI.4	

Solve systems of equations

A-REI.5	Given a system of two equations in two variables, show and explain m f m eM r