

## H Algebra 1

### Reporting Standards

H-ALG1-9.1	Solve equations and inequalities through the process of algebraic reasoning
H-ALG1-9.2	Represent, interpret and evaluate functions
H-ALG1-9.3	Write and graph linear functions
H-ALG1-9.4	Solve systems of linear equations using graphing, substitution and elimination
H-ALG1-9.5	Apply the properties of rational and irrational numbers
H-ALG1-9.6	Solve quadratic equations to identify real and imaginary zeros
H-ALG1-9.7	Classify, combine, factor polynomials.

### Learning Targets

H-ALG1-9.1: Solve equations and inequalities using algebraic reasoning.				
	Limited	Developing	Proficient	Exemplary
H-ALG1-9.1.1	I can simplify an expression using the distributive property and combine like terms.	I can solve equations and identify whether an equation has one solution, no solutions or infinitely many solutions.	I can create an equation to model a problem and solve for the variable.	I can create multi-step equations that yield a specific solution.
H-ALG1-9.1.2	I can identify the inequality symbols and graph a given solution on a number line.	I can solve a two-step inequality and graph it on a number line.	I can solve a multi step inequality with one variable and graph the solution on a number line.	I can solve a compound inequality, graph the solution on a number line and represent it in interval notation.

H-ALG1-9.2: Represent, interpret, and evaluate functions.				
	Limited	Developing	Proficient	Exemplary
H-ALG1-9.2.1	I can distinguish between a relation and function.	I can identify a function.	I can represent a function (in function notation) as a table, graph and mapping diagram.	I can create a function to model a real-world situation and describe the domain of the function.
H-ALG1-9.2.2	I can identify a function and its domain and range values.	I can evaluate a function for a given domain value when given a graph of the function.	I can write and evaluate functions for given domain values and perform operations with the function.	I can rewrite multiple functions as a composite function.
H-ALG1-9.2.3	I can identify notation for the first term, nth	I can distinguish between arithmetic,	I can determine the first term, nth term,	I can write a sequence to model a

	term, common difference and common ratio.	geometric and other sequences.	common difference and common ratio of a sequence.	real-world situation.
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## H-ALG1-9.3: Write and graph linear functions

	Limited	Developing	Proficient	Exemplary
H-ALG1-9.3.1	I can write a linear function in slope intercept form given a graph or the slope and one point on the line.	I can write a linear function in slope intercept form given the equation in standard form or two points on the line.	I can write a linear function in standard form, slope-intercept and point-slope form.	I can write a linear function in standard form, slope-intercept and point-slope form and use it to predict real-world data.
H-ALG1-9.3.2	I can graph a linear function given slope-intercept form.	I can graph a linear function and identify the slope and intercepts.	I can graph linear functions that model real-world situations.	I can graph a real-world scenario given a data set using a linear regression and use the line of best fit to predict output values
H-ALG1-9.3.3	I know the definition of parallel and perpendicular.	I can identify parallel and perpendicular lines given the slopes of the lines.	I can write and graph parallel and perpendicular lines on a coordinate plane.	I can create parallel and perpendicular lines given a specific solution set.

## H-ALG1-9.4: Solve systems of linear equations and inequalities using graphing, substitution and elimination.

	Limited	Developing	Proficient	Exemplary
H-ALG1-9.4.1	I can identify the solution of a system of linear equations when given a graphic representation of the problem.	I can solve a system of linear equations using two of the three methods.	I can solve a system of linear equations by graphing, substitution and elimination.	I can write and solve (algebraically) a system of linear equations with three variables.

## H-ALG1-9.5: Apply properties of rational and irrational numbers.

	Limited	Developing	Proficient	Exemplary
H-ALG1-9.5.1	I can identify a radical expression and recall vocabulary related to the concept. (estimate)	I can simplify a perfect square or perfect cube.	I can simplify radicals to create equivalent expressions, including rationalizing the denominator.	I can perform operations on radicals that include variables.

## H-ALG1-9.6: Solve quadratic equations to identify real and imaginary zeros.

	Limited	Developing	Proficient	Exemplary
H-ALG1-9.6.1	I can solve a quadratic equation by graphing the parabola.	I can solve a quadratic equation using two of the five methods: graphing, factoring, square roots, completing the square and the quadratic formula.	I can solve a quadratic equation using four of the five methods: graphing, factoring, square roots, completing the square and the quadratic formula.	I can write quadratic equations to model real-world scenarios, solve and analyze the properties of the function.

H-ALG1-9.7: Classify, combine and factor polynomials.				
	Limited	Developing	Proficient	Exemplary
H-ALG1-9.7.1	I can identify single variable polynomials and classify a polynomial when given the degree and number of terms.	I can arrange a single variable polynomial into standard form and classify it by degree and number of terms.	I can explain, with the use of examples, how polynomials are comparable to integers.	I can model a polynomial using manipulatives.
H-ALG1-9.7.2	I can add and subtract polynomials.	I can simplify polynomials using addition, subtraction and multiplication.	I can simplify polynomials using addition, subtraction and multiplication and division by a monomial.	I can apply my knowledge of polynomial operations to geometric applications or create polynomials that yield a given product or sum.
H-ALG1-9.7.3	I can expand and factor a polynomial by the greatest common factor.	I can factor polynomials using a difference of squares, basic trinomials, and grouping.	I can factor a trinomial with a leading coefficient greater than one and a sum/difference of cubes.	I can factor any given trinomial.