

Intro to Algebra Mathematics Curriculum

DOMAIN DESCRIPTION	CLUSTER DESCRIPTION	MLS CODE	MLS DESCRIPTION	DOK	Instructional Activities	Assessments
Number and Quantity	Use units to solve problems.	A1.NQ.B.3 <i>a, b, c</i>	Use units of measure as a way to understand and solve problems involving quantities. - <i>Identify, label and use appropriate units of measure within a problem.</i> - <i>Convert units and rates.</i> - <i>Use units within problems.</i>	2	Choose and interpret units in the context of problems and formulas.	Solve area, perimeter, surface area and volume problems and label with appropriate units.
Seeing Structure in Expressions	Interpret and use structure.	A1.SSE.A.1	Interpret the contextual meaning of individual terms or factors from a given problem that utilizes formulas or expressions.	3	Interpret parts of an expression, such as terms, factors, and coefficients.	Students should be able to recognize and interpret the parts that make up the algebraic expression.
Creating Equations	Create equations that describe linear, quadratic and exponential relationships.	A1.CED.A.1	Create equations and inequalities in one variable and use them to model and/or solve problems.	2	Create equations and inequalities representing real world scenarios.	Translate word phrases into algebraic expressions, equations and inequalities.
		A1.CED.A.3	Represent constraints by equations or inequalities and by systems of equations or inequalities, and interpret the data points as a solution or non-solution in a modeling context.	2	Determine if a given number is a solution to an equation or inequality .	Determine if $x = -3$ is a solution to the equation $3x + 1 = -8$.
		A1.CED.A.4	Solve literal equations and formulas for a specified variable that highlights a quantity of interest.	2	Rearrange formulas to highlight a quantity of interest using the same reasoning as solving equations.	Solve an equation in standard form such as $3x + 4y = -3$ for y .

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Reasoning with Equations and Inequalities	Understand solving equations as a process, and solve equations and inequalities in one variable.	A1.REI.A.1	Explain how each step taken when solving an equation or inequality in one variable creates an equivalent equation or inequality that has the same solution(s) as the original.	3	Using algebraic properties and the properties of real numbers, solve linear equations and inequalities including multi-step problems.	Students will solve a variety of equations such as simple one-step equations and more rigorous multi-step equations such as $-4(x + 1) = 3(x - 1) + 2$.
	Represent and solve linear and exponential equations and inequalities graphically	A1.REI.C.6	Explain that the graph of an equation in two variables is the set of all its solutions plotted in the Cartesian coordinate plane.	2	Interpret a graph as a collection of infinite solutions (x,y). Understand that graphical solution methods may produce approximate solutions, while algebraic solution methods use precise solutions.	Given the graph of $2x+3y=6$, is the point (1,4) a solution? Graph linear equations using intercepts and t-charts.
Arithmetic with Polynomials and Rational Expressions	Perform operations on polynomials.	A1.APR.A.1	Add, subtract and multiply polynomials, and understand that polynomials follow the same general rules of arithmetic and are closed under these operations.	2	Add, subtract and multiply polynomials.	Solve problems such as $(2x - 4) - (-3x + 1)$ and $(x - 7)(3x - 10)$ by applying the distributive property, the concept of combining like terms and the FOIL method.
Data and Statistical Analysis	Summarize, represent and interpret data.	A1.DS.A.2	Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets.	2	Compare the distributions of two or more data sets by examining their shapes, centers and spreads when drawn on the same scale.	Given a set of chapter one test scores find the measures of central tendency including mean, median, mode and range.