



Algebra 1 Course			
Domain	Cluster	Standard	Associated Goal Stems
(SSE) Seeing Structure in Expressions Standard 1	Interpret the structure of expressions.	Interpret expressions that represent a quantity in terms of its context. a. Interpret parts of an expression, such as terms, factors, and coefficients. b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P .	<u>A-SSE.1 Analyze Parts of Expression</u> <STUDENT> will explain parts of an expression orally, in writing, and/or through a combination of words and drawings <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(SSE) Seeing Structure in Expressions Standard 2	Interpret the structure of expressions.	Use the structure of an expression to identify ways to rewrite it. a. Use the distributive property to express a sum of terms with a common factor as a multiple of a sum of terms with no common factor. For example, express $xy^2 + x^2y$ as $xy(y + x)$. b. Use the properties of operations to express a product of a sum of terms as a sum of products. For example, use the properties of operations to express $(x + 5)(3 - x + c)$ as $-x^2 + cx - 2x + 5c + 15$.	<u>A.SSE.2 Distributive Property</u> <STUDENT> will use the distributive property to express a sum of terms with a common factor as a multiple of sum of terms with no common factor, such as $xy^2 + x^2y$ as $xy(y + x)$ <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<u>A.SSE.2 Properties of Operations</u> <STUDENT> will use the properties of operations to express a product of a sum of terms as a sum of products, such as $(x + 5)(3 - x + c)$ as $-x^2 + cx - 2x + 5c + 15$. <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(SSE) Seeing Structure in Expressions Standard 3	Write expressions in equivalent forms to solve problems.	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. c. Use the properties of exponents to transform expressions for exponential functions. For example the expression $1.15t$ can be rewritten as $(1.151/12)^{12t} \approx 1.012^{12t}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.	<u>A-SSE.3 Factor a Quadratic Expression</u> <STUDENT> will produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression by factoring a quadratic expression to reveal the zeros of the function it defines <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<u>A-SSE.3 Complete the Square in Quadratic Exp.</u> <STUDENT> will complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Standard	Associated Goal Stems
(APR) Arithmetic with Polynomials and Rational Expressions Standard 1	Perform arithmetic operations on polynomials.	Understand that polynomials form a system analogous to the integers; namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials, and divide polynomials by monomials. Solve problems in and out of context.	<u>A-APR.1 Perform Arithmetic Operations-Polynomials</u> <STUDENT> will add, subtract, or multiply polynomials or divide polynomials by monomials <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(APR) Arithmetic with Polynomials and Rational Expressions Standard 2	Understand the relationship between zeros and factors of polynomials.	Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a , the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$.	<u>A-APR.2 Explain Remainder Theorem</u> <STUDENT> will explain orally, in writing, and/or through a combination of words and drawings the Remainder Theorem for a polynomial <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(APR) Arithmetic with Polynomials and Rational Expressions Standard 3	Understand the relationship between zeros and factors of polynomials.	Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.	<u>A-APR.3 Identify Zeros of Polynomials</u> <STUDENT> will identify zeros of polynomials and use the zeros to construct a rough graph of the function defined by the polynomial <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(APR) Arithmetic with Polynomials and Rational Expressions Standard 7	Rewrite rational expressions.	Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions.	<u>A-APR.7 Operations with Rational Expressions</u> <STUDENT> will explain orally, in writing, and/or through a combination of words and drawings that rational expressions form systems related to the rational numbers and add, subtract, multiply, or divide rational expressions <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Standard	Associated Goal Stems
(CED) Creating Equations Standard 1	Create equations that describe numbers or relationships.	Create equations and inequalities in one variable including ones with absolute value and use them to solve problems in and out of context, including equations arising from linear functions.	<p><u>A-CED.1 Create Equations- One Variable</u></p> <p><STUDENT> will create equations or inequalities in one variable including ones with absolute value and use them to solve problems <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.</p>
(CED) Creating Equations Standard 2	Create equations that describe numbers or relationships.	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	<p><u>A-CED.2 Create Equations - Two or More Variables</u></p> <p><STUDENT> will create equations in two or more variables to represent relationships between quantities <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.</p>
			<p><u>A-CED.2 Graph Equations - Two or More Variables</u></p> <p><STUDENT> will graph equations in two or more variables on coordinate axes with labels and scales <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.</p>



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Domain	Cluster	Standard	Associated Goal Stems
(REI) Reasoning with Equations and Inequalities Standard 1	Understand solving equations as a process of reasoning and explain the reasoning.	Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	<u>A-REI.1 Explain Steps in Solving Equations</u> <STUDENT> will explain each step in solving a simple equation or construct a viable argument to justify a solution method or combination of both orally, in writing, and/or through a combination of words and drawings <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 2	Understand solving equations as a process of reasoning and explain the reasoning.	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	<u>A-REI.2 Solve Rational and Radical Equations</u> <STUDENT> will solve simple rational and radical equations in one variable <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 3	Solve equations and inequalities in one variable.	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	<u>A-REI.3 Solve Linear Equations and Inequalities</u> <STUDENT> will solve linear equations and inequalities in one variable, including equations with coefficients represented by letters <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 3.1 (CA)	Solve equations and inequalities in one variable.	Solve equations and inequalities involving absolute value.	<u>A-REI.3.1 Solve Equations Involving Absolute Value</u> <STUDENT> will solve equations and/or inequalities involving absolute value <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Standard	Associated Goal Stems
(REI) Reasoning with Equations and Inequalities Standard 4	Solve equations and inequalities in one variable.	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 and write them as $a \pm bi$ for real numbers a and b .	<u>A-REI.4 Solve Quadratic Equations in One Variable</u> <STUDENT> will solve quadratic equations in one variable using the method of completing the square, by using the quadratic formula, and/or by using the factoring method <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 5	Solve systems of equations.	Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	<u>A-REI.5 Systems of Equations</u> Given a system of two equations in two variables, <STUDENT> will prove that replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 6	Solve systems of equations.	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.	<u>A-REI.6 Solve Systems of Linear Equations</u> <STUDENT> will solve systems of linear equations <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Standard	Associated Goal Stems
(REI) Reasoning with Equations and Inequalities Standard 7	Solve systems of equations.	Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line $y = -3x$ and the circle $x^2 + y^2 = 3$.	<u>A-REI.7 Solve Systems of Linear or Quadratic Equations</u> <STUDENT> will solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically, graphically, or a combination of both <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 10	Represent and solve equations and inequalities graphically.	Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	<u>A-REI.10 Explain Graph of Equation</u> <STUDENT> will explain orally, in writing, and/or through a combination of words and drawings that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(REI) Reasoning with Equations and Inequalities Standard 12	Represent and solve equations and inequalities graphically.	Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	<u>A-REI.12 Graph Solutions to Linear Inequality</u> <STUDENT> will graph the solutions to a linear inequality in two variables as a half-plane <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<u>A-REI.12 Graph Solutions to System of Linear Inequalities</u> <STUDENT> will graph the solution set to a system of linear inequalities in two variables as the intersection of corresponding half-planes <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>%



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(IF) Interpreting Functions Standard 5	Interpret functions that arise in applications in terms of the context.	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function $h(n)$ gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.	<u>F-IF.5 Compare Domain of a Function to its Graph</u> <STUDENT> will compare the domain of a function to its graph and/or to the quantitative relationship it describes <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(IF) Interpreting Functions Standard 6	Interpret functions that arise in applications in terms of the context.	Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.	<u>F-IF.6 Calculate Average Rate of Change</u> <STUDENT> will calculate the average rate of change of a function (presented symbolically or as a table) over a specified interval <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(IF) Interpreting Functions Standard 9	Analyze functions using different representations.	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.	<u>F-IF.9 Compare Properties of Functions</u> <STUDENT> will compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions) <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(BF) Building Functions Standard 4	Build new functions from existing functions.	Find inverse functions. a. Solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse. For example, $f(x) = 2x^3$ or $f(x) = (x+1)/(x-1)$ for $x \neq 1$.	<u>F-BF.4 Solve Equation and Write Expression for Inverse</u> <STUDENT> will solve an equation of the form $f(x) = c$ for a simple function f that has an inverse and write an expression for the inverse <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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Domain	Cluster	Standard	Associated Goal Stems
(LE) Linear, Quadratic, and Exponential Models Standard 1	Construct and compare linear, quadratic, and exponential models and solve problems.	Distinguish between situations that can be modeled with linear functions and with exponential functions. a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	<u>F.LE.1 Prove Linear Functions</u> <STUDENT> will prove that linear functions grow by equal differences over equal intervals, or that exponential functions grow by equal factors over equal intervals <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<u>F.LE.1 Identify Situations Quantity Changes</u> <STUDENT> will identify situations in which one quantity changes at a constant rate per unit interval relative to another <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(LE) Linear, Quadratic, and Exponential Models Standard 3	Construct and compare linear, quadratic, and exponential models and solve problems.	Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.	<u>F.LE.3 Use Graphs and Tables</u> <STUDENT> will use graphs and tables to show that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or as a polynomial function <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.



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(ID) Interpreting Categorical and Quantitative Data Standard 1	Summarize, represent, and interpret data on a single count or measurement variable.	Represent data with plots on the real number line (dot plots, histograms, and box plots).	<u>S-ID.1 Represent Data with Plots on Number Line</u> <STUDENT> will represent data with plots on the real number line <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(ID) Interpreting Categorical and Quantitative Data Standard 2	Summarize, represent, and interpret data on a single count or measurement variable.	Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.	<u>S-ID.2 Use Statistics to Compare Data Sets</u> <STUDENT> will use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(ID) Interpreting Categorical and Quantitative Data Standard 6	Summarize, represent, and interpret data on two categorical and quantitative variables.	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. c. Fit a linear function for a scatter plot that suggests a linear association.	<u>S-ID.6 Use Functions to Solve Problems</u> <STUDENT> will use functions fitted to data to solve problems in the context of the data <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
			<u>S-ID.6 Informally Assess Function</u> <STUDENT> will assess the fit of a function by plotting and analyzing residuals <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(ID) Interpreting Categorical and Quantitative Data Standard 7	Interpret linear models.	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	<u>S-ID.7 Identify Slope and Intercept in Data</u> <STUDENT> will identify the slope and the intercept of a linear model in the context of the data <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.
(ID) Interpreting Categorical and Quantitative Data Standard 9	Interpret linear models.	Distinguish between correlation and causation.	<u>S-ID.9 Distinguish between Correlation and Causation</u> <STUDENT> will distinguish between correlation and causation when interpreting data <UNDER_WHAT_CONDITION> as measured <MEASURE> in <NUMBER1> out of <NUMBER2> trials with <PERCENT>% accuracy.