2023-2024

SPED Two - Year Algebra 1 Course Guide

Special Education Two–Year Algebra 1
#7824/7825 Year One Algebra 1
#7826/7827 Year Two Algebra 1

(This is a two-year Algebra 1 Course offered by the Special Education Department. In order for students to be successful on the Math I State Final students must successfully complete the entire Algebra 1 Curriculum and take the Math I State Final at the end of Year Two S2.)

SPED Two - Year Algebra 1 Pacing

Year One (S1 Content) Algebra 1		Year Two (S2 Content) Algebra 1	
S1-Topics	Days	S1-Topics	Days
1 - Solving Equations & Inequalities	21	6 – Exponents & Exponential Functions	30
2 - Linear Equations	12		
Fall Break		Fall Break	
2 - Linear Equations	18	7 - Polynomials and Factoring	30
3 - Linear Functions	20		
End of Semester 1 Year One		End of Semester 1 Year Two	
S2-Topics	Days	S2-Topics	Days
4 - Systems of Equations & Inequalities	26	8 - Quadratic Functions	22
		9 – Solving Quadratic Equations	11
Spring Break		Spring Break	
5 – Piecewise Functions	21	9 - Solving Quadratic Equations	31
End of Semester 2 Year One		End of Semester 2 Year Two	

SPED Year One Algebra 1 (S1)

Solving Equations and Inequalities – Topic 1		
Lesson	Resource	Days
Supplement with simplify expressions and equations with more fractions. Solving Linear Equations (HSA.CED.A.1, HSA.REI.A.1, HSA.REI.B.3)	1.2	3
Solving Equation w/Variables (HSN.Q.A.2, HSA.CED.A.1, HSA.REI.A.1, HSA.REI.B.3)	1.3	3
Literal Equations and Formulas (HSN.Q.A.1, HSA.CED.A.1, HSA.CED.A.4) Prioritize transforming equations to slope-intercept form.	1.4	3
Solving Inequalities in One Variable (HSA.CED.A.1, HSA.CED.A.3, HSA.REI.B.3)	1.5	3
Compound Inequalities (HSA.CED.A.1, HSA.CED.A.3, HSA.REI.B.3)	1.6	3
Review and Test		4
Essential Standards Reteaching and Intervention		2
		Total = 21

Reason quantitatively and use units to solve problems.	
HSN.Q.A.1	Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs.
HSN.Q.A.2	Define appropriate quantities for the purpose of descriptive modeling.
Create equations that describe numbers or relationships.	
*HSA.CED.A.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.
*HSA.CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
*HSA.CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's Law $V = IR$ to highlight resistance R.
Understand solving equations as a process of reasoning and explain the reasoning.	
HSA.REI.A.1	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.
Solve equations and inequalities in one variable.	
*HSA.REI.B.3	Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

SPED Year One Algebra 1 (S1)

Linear Equations – Topic 2		
Lesson	Resource	Days
Slope-Intercept Form (HSA.CED.A.2, HSS.ID.C.7) – Graph and understand parts of $y = mx + b$	2.1	6
Point Slope Form (Supplement (h, k) form) (HSA.CED.A.2, HSF.LE.A.2, HSS.ID.C.7)	2.2	4
Quiz		2
Be Here by Fall Break Year One		**Total = 12**
Standard Form and convert to other forms: slope intercept, (h,k) form and point slope (HSA.CED.A.2, HSA.CED.A.3, HSS.ID.C.7)	2.3	4
Parallel and Perpendicular Lines --Introduce and identify Parallel and Perpendicular lines understanding slopes and graphs (HSA.CED.A.2, HSA.CED.A.4, HSF.IF.C.7a)	2.4	4
Review and Test		4
Essential Standards Reteaching and Intervention		2
		Total = 18

Create equations that describe numbers or relationships.	
*HSA.CED.A.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.
*HSA.CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
*HSA.CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
*HSA.CED.A.4	Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's Law $V = IR$ to highlight resistance R.
Interpret functions that arise in applications in terms of the context.	
*HSF.IF.B.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.
Analyze functions using different representations.	
*HSF.IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. *a. Graph linear and quadratic functions show intercepts, maxima and minima.
Interpret expression for functions in terms of the situation they model.	
*HSF.LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (including reading these from a table).
Interpret linear models.	
*HSS.ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

SPED Year One Algebra 1 (S1)

Linear Functions – Topic 3		
Lesson	Resource	Days
Relations and Functions (HSF.IF.A.1)	3.1	6
Linear Functions (HSF.IF.A.1, HSF.IF.A.2, HSF.IF.B.5, HSF.LE.A.2) Write Linear Functions from tables, ordered pairs, and with slope and intercept	3.2	6
Scatter plots and Lines of Fit (HSS.ID.B.6a, HSS.ID.B.6c, HSS.ID.C.7)	Optional-3.5	Optional-4
Arithmetic Sequence (emphasis on function notation, emphasis on explicit and how it relates to (h,k) form, expose to subscript notation and recursive) (HSF.BF.A.1, HSF.BF.A.2, HSF.IF.A.3, HSF.LE.A.2)	Optional-3.4	Optional-2
Review and Quiz		2
Essential Standards Reteaching and Intervention		2
		Total = 20

Build a function that models a relationship between two quantities.	
*HSF.BF.A.1	Write a function that describes a relationship between two quantities. *a. Determine an explicit expression, a recursive process, or steps for calculation from context.
HSF.BF.A.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.
Understand the concept of a function and use function notation.	
*HSF.IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, the $f(x)$ denotes the output of f corresponding to input x. The graph of f is $y = f(x)$.
*HSF.IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
HSF.IF.A.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
Interpret functions that arise in applications in terms of the context.	
*HSF.IF.B.5	Relate the domain of a function to its graph and to the quantitative relationship it describes.
Interpret expression for functions in terms of the situation they model.	
*HSF.LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, description of a relationship, or two input-output pairs (including reading table)
Summarize, represent and interpret data on two categorical and quantitative variables.	
HSS.ID.B.6	Represent data of two quantitative variables on a scatter plot & describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in context of data. c. Fit a linear function for a scatter plot that suggests a linear association.
Interpret linear models.	
*HSS.ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in context.

SPED Year One Algebra 1 (S2)

Systems of Linear Equations and Inequalities – Topic 4		
Lesson	Resource	Days
Solving Systems of Equations by Graphing (HSA.REI.C.6, HSA.REI.D.11, HSF.IF.C.9)	4.1	4
Solving Systems of Equations by Substitution (HSA.CED.A.3, HSA.REI.C.6, HSA.REI.D.11)	4.2	4
Solving Systems of Equations by Elimination (HSA.CED.A.3, HSA.REI.C.5)	4.3	4
Review and Test		2
Linear Inequalities in Two Variables (HSA.CED.A.3, HSA.REI.D.12)	4.4	4
Systems of Linear Inequalities (HSA.CED.A.3, HSA.REI.D.12)	4.5	4
Review and Test		2
Essential Standards Reteaching and Intervention		2
Be Here By Spring Break Year One		**Total = 26**

Create equations that describe numbers or relationships.	
*HSA.CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
*HSA.CED.A.3	Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
Solve systems of equations.	
HSA.REI.C.5	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.
*HSA.REI.C.6	Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
Represent and solve equations and inequalities graphically.	
HSA.REI.D.11	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include absolute value equations/functions.
Represent and solve equations and inequalities graphically.	
*HSA.REI.D.12	Graph the solutions to 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 intersections of the corresponding half-planes.
Analyze functions using different representations.	
*HSF.IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically and in table or a verbal description.

SPED Year One Algebra 1 (S2)

Piecewise Functions – Topic 5		
Lesson	Resource	Days
Absolute Values Equations (HSA.CED.A.1, HSA.REI.D.11, HSF.IF.A.1)	1.7	3
The Absolute Value Function (HSF.IF.B.4, HSF.IF.C.7b) --all notations of end behavior	5.1	6
Piecewise-Defined Functions (linear pieces over a restricted domain, absolute value as a piecewise function) (HSF.IF.A.2, HSF.IF.B.4, HSF.IF.C.7b)	Optional-5.2	Optional-2
Transformations of (Piecewise-Defined) Absolute Value Functions (HSF.BF.B.3, HSF.IF.C.7b, HSF.IF.C.9)	5.4	6
Review and Test		2
Essential Standards Reteaching and Intervention		2
Be Here By End of Semester 2 Year One		**Total = 21**

Create equations that describe numbers or relationships.	
*HSA.CED.A.1	Create equations and inequalities in one variable and use them to solve problems.
Represent and solve equations and inequalities graphically.	
HSA.REI.D.11	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the soutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include absolute value equations/functions.
Build new functions form existing functions.	
*HSF.BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k,\ k \cdot f(x),\ f(kx),$ $and\ f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.
Understand the concept of a function and use function notation.	
*HSF.IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function of and x is an element of its domain, the $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the equation $y = f(x)$.
*HSF.IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
Interpret functions that arise in applications in terms of the context.	
*HSF.IF.B.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.
Analyze functions using different representations.	
*HSF.IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. *b. Graph square root, cube root and piecewise-defined functions, including step functions and absolute value functions.
*HSF.IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically and in table or a verbal description.

SPED Year Two Algebra 1 (S1)

Exponents and Exponential Functions – Topic 6		
Lesson	Resource	Days
Supplement: Review exponent properties from grade 8.	Supplement	5
Rational Exponents and Properties of Exponents (HSN.RN.A.1, HSN.RN.A.2) Supplement: developmentally appropriate equations with exponents	6.1	4
Exponential Functions (HSF.BF.A.1, HSF.IF.B.4, HSF.IF.B.5, HSF.LE.A.1)	6.2	4
Exponential Growth and Decay (HSA.CED.A.2, HSA.SSE.A.1b, HSA.SSE.B.3c, HSF.IF.C.8b, HSF.LE.A.1a-c, HSF.LE.A.2, HSF.LE.B.5) Omit Compound Interest	6.3	4
Review and Quiz		2
Geometric Sequences {recognize geometric sequence compared to other sequences, verify equation works for given sequence} (HSF.BF.A.2, HSF.IF.A.3, HSF.LE.A.2)	Optional-6.4	Optional-2
Transformations of Exponential Functions (use book section as a guide) (HSF.BF.B.3, HSF.IF.B.4, HSF.IF.C.9)	6.5	4
Review and Test		3
Essential Standards Reteaching and Intervention		2
Be Here By Fall Break Year Two		**Total = 30**

Extend the properties of exponents to rational exponents.	
HSN.RN.A.1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents follows from extending the properties of integer 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* $\left(5^{1/3}\right)^3 = 5^{(1/3)3}$ *to hold, so.* $\left(5^{1/3}\right)^3$ equals 5.
HSN.RN.A.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
Create equations that describe numbers or relationships.	
*HSA.CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
Interpret the structure of expressions.	
*HSA.SSE.A.1	Interpret expressions that represent a quantity in **terms of its context**. *b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For ex, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.
Write expression in equivalent forms to solve problems.	
*HSA.SSE.B.3	Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. *c. Use properties of exponents to transform expressions for exponential functions.
Build a function that models a relationship between two quantities.	
*HSF.BF.A.1	Write a function that describes a relationship between two quantities. *a. Determine an explicit expression, a recursive process, or steps for calculation from a context.
HSF.BF.A.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

SPED Year Two Algebra 1 (S1)

Build new functions from existing functions.	
*HSF.BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x)+k,\ k\cdot f(x),\ f(kx),$ $and\ f(x+k)$ for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.
Understanding the concept of a function and use function notation.	
HSF.IF.A.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
Interpret functions that arise in applications in terms of the context.	
*HSF.IF.B.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.*
*HSF.IF.B.5	Relate the domain of a function to its graph and where applicable, to the quantitative relationship it describes.
Analyze functions using different representations.	
*HSF.IF.C.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. *b. Use the process of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y=\ 1.02^{t}, y=0.97^{t}, y=\ 1.01^{12t}, y=\ 1.2^{t/10}$ and classify them as representing exponential growth and decay.
*HSF.IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically and in table or a verbal description.
Construct and compare linear, quadratic, and exponential models and solve problems.	
*HSF.LE.A.1	Distinguish between situations that can be modeled with linear functions and with exponential functions. *a. Prove that linear functions can be modeled 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. *c. Recognize situations in which one quantity grows or decays by a constant percent or rate per unit interval relative to another.
*HSF.LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (including reading these from a table).
Interpret expression for functions in terms of the situation they model.	
HSF.LE.B.5	Interpret the parameters in a linear or exponential function in terms of a context.

SPED Year Two Algebra 1 (S1)

Polynomials and Factoring – Topic 7		
Lesson	Resource	Days
Adding and Subtracting Polynomials (HSA.APR.A.1)	7.1	2
Multiplying Polynomials (HSA.APR.A.1)	7.2	2
Multiplying Special Cases (HSA.APR.A.1)	7.3	2
Review and Quiz		2
Factoring Polynomials (Quadratics) (HSA.SSE.A.1, HSA.SSE.A.2)	7.4	3
Supplement: Factor by grouping	Supplement	3
Factoring $x^2 + bx + c$ (HSA.SSE.A.1)	7.5	3
Factoring $ax^2 + bx + c$ (HSA.SSE.A.1)	7.6	4
Factoring Special Cases (HSA.SSE.A.1, HSA.SSE.A.2)	7.7	4
Review and Test		3
Essential Standards Reteaching and Intervention		2
Be Here By End Of Semester 1 Year Two		**Total = 30**

Perform arithmetic operations on polynomials.	
*HSA.APR.A.1	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.
Interpret the structure of expressions.	
*HSA.SSE.A.1	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 ex, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.
*HSA.SSE.A.2	Use the structure of an expression to identify ways to rewrite it.

SPED Year Two Algebra 1 (S2)

Quadratic Functions – Topic 8		
Lesson	Resources	Days
Key Features of a Quadratic Function (HSA.CED.A.2, A.REI.D.10, HSF.BF.B.3, HSF.IF.B.4)	8.1	4
Quadratic Functions in Vertex Form (HSF.BF.B.3, HSF.IF.C.7a)	8.2	5
Quadratic Functions in Standard Form (analyze and convert between vertex and standard form) (HSF.IF.B.4, HSF.IF.C.7a, HSF.IF.C.8a, HSF.IF.C.9)	8.3	4
Modeling with Quadratic Functions (HSF.IF.A.2) *No Regression	8.4 Ex 1&2	4
Review and Test		3
Essential Standards Reteaching and Intervention		2
		Total = 22

Create equations that describe numbers or relationships.	
*HSA.CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
Represent and solve equations and inequalities graphically.	
*HSA.REI.D.10	Understand that the graph of an equations in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).
Build new functions from existing functions.	
*HSF.BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x)+k,\ k\cdot f(x),\ f(kx),$ $and\ f(x+k)$ for specific values of *k* (both positive and negative); find the value of *k* given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. *Include recognizing even and odd functions from their graphs and algebraic expressions for them.*
Understanding the concept of a function and use function notation.	
*HSF.IF.A.2	Use function notation, evaluate functions for inputs in their domain, and interpret statements that use function notation in terms of a context.
Interpret functions that arise in applications in terms of the context.	
*HSF.IF.B.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*
Analyze functions using different representations.	
*HSF.IF.C.7	Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.* *a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
*HSF.IF.C.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. *a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.
*HSF.IF.C.9	Compare properties of two functions each represented in a different way (algebraically, graphically, numerically and in table or a verbal description.

SPED Year Two Algebra 1 (S2)

Solving Quadratic Equations – Topic 9		
Lesson	Resource	Days
Solving Quadratic Equations using graphs and tables (HSA.CED.A.1, HSA.CED.A.2, HSA.REI.B.4b, HSA.REI.D.11)	9.1	4
Solving Quadratic Equations by Factoring (HSA.APR.B.3, HSA.REI.B.4b, HSA.SSE.B.3a, HSF.IF.C.8a)	9.2	4
Review and Quiz		3
Be Here By Spring Break Year Two		**Total = 11**
Practice with radical properties, simplifying square roots	Supplement	2
Rewriting Radical Expressions (HSN.RN.A.2, HSA.SSE.A.2)	9.3	4
Review and Quiz		2
Solving Quadratic Equations Using Square Roots (HSA.CED.A.1, HSA.REI.B.4b, HSA.SSE.A.2)	9.4	4
Completing the Square (HSA.REI.B.4b, HSA.SSE.B.3b, HSF.IF.C.8a)	9.5	4
The Quadratic Formula and the Discriminant (HSA.REI.B.4, HSA.SSE.B.3)	9.6	4
Solving Systems of Linear and Quadratic Equations (HSA.REI.C.7, HSA.REI.D.11)	9.7	6
Review and Test		3
Essential Standards Reteaching and Intervention		2
Be Here By End of Semester 2 Year Two		**Total = 31**

Extend the properties of exponents to rational exponents.	
HSN.RN.A.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.
Perform arithmetic operations on polynomials.	
*HSA.APR.B.3	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.
Create equations that describe numbers or relationships.	
*HSA.CED.A.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.
*HSA.CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
Solve equations and inequalities in one variable.	
*HSA.REI.B.4	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.
Solve systems of equations.	
HSA.REI.C.7	Solve a system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically.

SPED Year Two Algebra 1 (S2)

Represent and solve equations and inequalities graphically.	
HSA.REI.D.11	Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the soutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial (quadratic), rational, absolute value, exponential, and logarithmic functions.
Interpret the structure of expressions.	
*HSA.SSE.A.1	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 ex, interpret $P(1 + r)^n$ as the product of P and a factor not depending on P.
*HSA.SSE.A.2	Use the structure of an expression to identify ways to rewrite it.
*HSA.SSE.B.3	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 a function.
Analyze functions using different representations.	
*HSF.IF.C.8	Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. *a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.