Algebra 1 ©2022
Learning Targets and Success Criteria

		Learning Target	Success Criteria
Chapter 1: Solving Linear Equations			
Chapter Learning Target Understand solving linear equations. **Chapter Success Criteria** • I can solve simple and multi-step equations. • I can describe how to solve equations. • I can analyze the measurements used to solve a problem and judge the level of accuracy appropriate for the solution. • I can apply equation-solving techniques to solve real-life problems.	1.1 Solving Simple Equations	Write and solve one-step linear equations.	• I can apply properties of equality to produce equivalent equations. • I can solve linear equations using addition, subtraction, multiplication, or division. • I can write linear equations that model real-life situations.
	1.2 Solving Multi-Step Equations	Write and solve multi-step linear equations.	• I can apply more than one property of equality to produce equivalent equations. • I can solve multi-step linear equations using inverse operations. • I can write multi-step linear equations that model real-life situations.
	1.3 Modeling Quantities	Use proportional reasoning and analyze units when solving problems.	• I can use ratios to solve real-life problems. • I can use rates to solve real-life problems. • I can convert units and rates.
	1.4 Accuracy with Measurements	Choose an appropriate level of accuracy when calculating with measurements.	• I can choose an appropriate level of accuracy when measuring to solve real-life problems. • I can determine where to round numbers when finding estimates.
	1.5 Solving Equations with Variables on Both Sides	Write and solve equations with variables on both sides.	• I can apply properties of equality using variable terms. • I can solve equations with variables on both sides. • I can recognize when an equation has zero, one, or infinitely many solutions.

		Learning Target	Success Criteria
Chapter 1 continued			
	1.6 Solving Absolute Value Equations	Write and solve equations involving absolute value.	• I can write the two linear equations related to a given absolute value equation. • I can solve equations involving one or two absolute values. • I can identify special solutions of absolute value equations.
	1.7 Rewriting Equations and Formulas	Solve literal equations for given variables.	• I can identify a literal equation. • I can use properties of equality to rewrite literal equations. • I can use rewritten formulas to solve problems.

		Learning Target	Success Criteria
Chapter 2: Solving Linear Inequalities			
Chapter Learning Target Understand solving linear inequalities. **Chapter Success Criteria** • I can solve simple and multi-step inequalities. • I can describe how to solve inequalities. • I can compare and contrast solving inequalities with solving equations. • I can apply techniques for solving inequalities to solve real-life applications.	2.1 Writing and Graphing Inequalities	Write inequalities and represent solutions of inequalities on number lines.	• I can write word sentences as inequalities. • I can determine whether a value is a solution of an inequality. • I can graph and interpret inequalities.
	2.2 Solving Inequalities Using Addition or Subtraction	Write and solve inequalities using addition or subtraction.	• I can apply the Addition and Subtraction Properties of Inequality to produce equivalent inequalities. • I can solve inequalities using addition or subtraction. • I can use inequalities to model real-life problems.
	2.3 Solving Inequalities Using Multiplication or Division	Write and solve inequalities using multiplication or division.	• I can apply the Multiplication and Division Properties of Inequality to produce equivalent inequalities. • I can solve inequalities using multiplication or division. • I can recognize when to reverse an inequality symbol while solving an inequality.
	2.4 Solving Multi-Step Inequalities	Write and solve multi-step inequalities.	• I can use more than one property of inequality to generate equivalent inequalities. • I can solve multi-step inequalities using inverse operations. • I can apply multi-step inequalities to solve real-life problems.

		Learning Target	Success Criteria
Chapter 2 continued			
	2.5 Solving Compound Inequalities	Write and solve compound inequalities.	• I can write word sentences as compound inequalities. • I can solve compound inequalities. • I can graph solutions of compound inequalities.
	2.6 Solving Absolute Value Inequalities	Write and solve inequalities involving absolute value.	• I can write a compound inequality related to a given absolute value inequality. • I can solve absolute value inequalities. • I can use absolute value inequalities to solve real-life problems.

		Learning Target	Success Criteria
Chapter 3: Graphing Linear Functions			
Chapter Learning Target Understand graphing linear functions. **Chapter Success Criteria** • I can identify the graph of a linear function. • I can graph linear functions written in different forms. • I can describe the characteristics of a function. • I can explain how a transformation affects the graph of a linear function.	3.1 Functions	Understand the concept of a function.	• I can determine whether a relation is a function. • I can find the domain and range of a function. • I can distinguish between independent and dependent variables.
	3.2 Characteristics of Functions	Describe characteristics of functions.	• I can estimate intercepts of a graph of a function. • I can approximate when a function is positive, negative, increasing, or decreasing. • I can sketch a graph of a function from a verbal description.
	3.3 Linear Functions	Identify and graph linear functions.	• I can identify linear functions using graphs, tables, and equations. • I can graph linear functions with discrete and continuous domains. • I can write real-life problems that correspond to discrete or continuous data.
	3.4 Function Notation	Understand and use function notation.	• I can evaluate functions using function notation. • I can interpret statements that use function notation. • I can graph functions represented using function notation.

		Learning Target	Success Criteria
Chapter 3 continued			
	3.5 Graphing Linear Equations in Standard Form	Graph and interpret linear equations written in standard form.	• I can graph equations of horizontal and vertical lines. • I can graph linear equations written in standard form using intercepts. • I can solve real-life problems using linear equations in standard form.
	3.6 Graphing Linear Equations in Slope-Intercept Form	Find the slope of a line and use slope-intercept form.	• I can find the slope of a line. • I can use the slope-intercept form of a linear equation. • I can solve real-life problems using slopes and *y*-intercepts.
	3.7 Transformations of Linear Functions	Graph transformations of linear functions.	• I can identify a transformation of a linear graph. • I can graph transformations of linear functions. • I can explain how translations, reflections, stretches, and shrinks affect graphs of functions.
	3.8 Graphing Absolute Value Functions	Graph absolute value functions.	• I can graph absolute value functions. • I can find the domain and range of absolute value functions. • I can describe transformations of graphs of absolute value functions.

		Learning Target	Success Criteria
Chapter 4: Writing Linear Functions			
Chapter Learning Target Understand writing linear functions. **Chapter Success Criteria** • I can determine the slope given ordered pairs, a graph, or a context. • I can write the equation of a line in different forms. • I can interpret scatter plots and analyze lines of fit. • I can write a function that represents an arithmetic sequence to solve a real-life problem.	4.1 Writing Equations in Slope-Intercept Form	Write equations of lines in slope-intercept form.	• I can find the slope and the *y*-intercept of a line. • I can use the slope and the *y*-intercept to write an equation of a line. • I can write equations in slope-intercept form to solve real-life problems.
	4.2 Writing Equations in Point-Slope Form	Write equations of lines in point-slope form.	• I can use a point on a line and the slope to write an equation of the line. • I can use any two points to write an equation of a line. • I can write a linear function using any two function values.
	4.3 Writing Equations of Parallel and Perpendicular Lines	Recognize and write equations of parallel and perpendicular lines.	• I can identify parallel and perpendicular lines from their equations. • I can write equations of parallel lines. • I can write equations of perpendicular lines.
	4.4 Scatter Plots and Lines of Fit	Use scatter plots and lines of fit to describe relationships between data.	• I can read and interpret scatter plots. • I can identify correlations between data. • I can write and interpret an equation of a line of fit.

		Learning Target	Success Criteria
Chapter 4 continued			
	4.5 Analyzing Lines of Fit	Analyze lines of fit and find lines of best fit.	• I can use residuals to determine how well lines of fit model data. • I can use technology to find lines of best fit. • I can distinguish between correlation and causation.
	4.6 Arithmetic Sequences	Understand the concept of arithmetic sequences.	• I can write the terms of arithmetic sequences. • I can graph arithmetic sequences. • I can identify arithmetic sequences. • I can write arithmetic sequences as functions.
	4.7 Piecewise Functions	Graph and write piecewise functions.	• I can evaluate piecewise functions. • I can graph piecewise functions. • I can write piecewise functions.

		Learning Target	Success Criteria
Chapter 5: Solving Systems of Linear Equations			
Chapter Learning Target Understand solving systems of linear equations. **Chapter Success Criteria** • I can identify a system of linear equations. • I can describe different methods for solving systems of linear equations. • I can analyze systems of linear equations and decide what solution method is most efficient. • I can predict whether a system of linear equations has one solution, no solution, or infinitely many solutions.	5.1 Solving Systems of Linear Equations by Graphing	Solve linear systems by graphing.	• I can determine whether an ordered pair is a solution of a system. • I can graph a linear system. • I can approximate the solution of a linear system using a graph.
	5.2 Solving Systems of Linear Equations by Substitution	Solve linear systems by substitution.	• I can solve a system of linear equations by substitution. • I can solve a linear equation in two variables for either variable. • I can solve real-life problems using substitution.
	5.3 Solving Systems of Linear Equations by Elimination	Solve linear systems by elimination.	• I can add or subtract linear equations. • I can solve a system of linear equations by elimination. • I can explain why the elimination method produces a valid solution. • I can solve real-life problems using elimination.
	5.4 Solving Special Systems of Linear Equations	Solve linear systems with different numbers of solutions.	• I can determine the number of solutions of a system. • I can solve a system of linear equations with any number of solutions.
	5.5 Solving Equations by Graphing	Solve equations by graphing.	• I can solve a linear equation by graphing. • I can solve an absolute value equation by graphing. • I can explain why the x-coordinate of a point where $y = f(x)$ and $y = g(x)$ intersect is a solution of $f(x) = g(x)$.

		Learning Target	Success Criteria
Chapter 5 continued			
	5.6 Graphing Linear Inequalities in Two Variables	Graph linear inequalities in two variables.	• I can determine whether an ordered pair is a solution of a linear inequality in two variables. • I can graph linear inequalities in two variables. • I can interpret solutions of a linear inequality in two variables in a real-life situation.
	5.7 Systems of Linear Inequalities	Graph and write systems of linear inequalities.	• I can determine whether an ordered pair is a solution of a system of linear inequalities. • I can graph systems of linear inequalities. • I can write systems of linear inequalities from a graph. • I can solve real-life problems using systems of linear inequalities.

		Learning Target	Success Criteria
Chapter 6: Exponential Functions and Sequences			
Chapter Learning Target Understand exponential functions and sequences. **Chapter Success Criteria** • I can identify and use properties of exponents. • I can describe exponential functions. • I can analyze data, a graph, or a context to determine whether it represents exponential growth or decay. • I can model using an exponential function or a geometric sequence.	6.1 Properties of Exponents	Write equivalent expressions involving powers.	• I can explain the meaning of zero and negative exponents. • I can evaluate and simplify expressions involving zero and negative exponents. • I can simplify expressions using properties of exponents.
	6.2 Radicals and Rational Exponents	Write and evaluate an *n*th root of a number.	• I can find *n*th roots. • I can evaluate expressions with rational exponents. • I can solve real-life problems involving rational exponents.
	6.3 Exponential Functions	Graph and write exponential functions.	• I can identify an exponential function. • I can evaluate and graph an exponential function. • I can write exponential functions. • I can model real-life problems using exponential functions.
	6.4 Exponential Growth and Decay	Write and graph exponential growth and decay functions.	• I can determine whether data represent exponential growth or exponential decay. • I can write exponential growth functions and exponential decay functions. • I can solve real-life problems using exponential growth and decay functions.
	6.5 Solving Exponential Equations	Solve exponential equations.	• I can solve exponential equations with the same base. • I can solve exponential equations with unlike bases. • I can solve exponential equations by graphing.

		Learning Target	Success Criteria
Chapter 6 continued			
	6.6 Geometric Sequences	Identify, extend, and graph geometric sequences.	• I can determine whether a sequence is arithmetic, geometric, or neither. • I can write and graph the terms of geometric sequences. • I can write geometric sequences as functions.
	6.7 Recursively Defined Sequences	Write terms of recursively defined sequences and write recursive rules for sequences.	• I can write terms of recursively defined sequences. • I can write recursive rules for sequences. • I can translate between recursive rules and explicit rules.

		Learning Target	Success Criteria
Chapter 7: Polynomial Equations and Factoring			
Chapter Learning Target Understand polynomial equations and factoring. **Chapter Success Criteria** • I can classify polynomials by degree and number of terms. • I can add, subtract, multiply, and divide polynomials. • I can solve polynomial equations. • I can factor polynomials and use factoring to solve real-life problems.	7.1 Adding and Subtracting Polynomials	Add and subtract polynomials.	• I can classify polynomials. • I can add and subtract polynomials. • I can model real-life situations using sums and differences of polynomials.
	7.2 Multiplying and Dividing Polynomials	Multiply and divide polynomials.	• I can multiply and divide polynomials by monomials. • I can multiply binomials using the Distributive Property. • I can multiply binomials using the FOIL Method. • I can multiply binomials and trinomials.
	7.3 Special Products of Polynomials	Use patterns to find products of polynomials.	• I can use the square of a binomial pattern. • I can multiply binomials using the sum and difference pattern. • I can solve problems using special product patterns.
	7.4 Solving Polynomial Equations in Factored Form	Solve polynomial equations in factored form.	• I can use the Zero-Product Property to solve polynomial equations in factored form. • I can factor polynomials using the greatest common factor. • I can solve polynomial equations by rewriting them in factored form.
	7.5 Factoring $x^2 + bx + c$	Factor polynomials of the form $x^2 + bx + c$.	• I can identify the three terms of a trinomial. • I can factor polynomials of the form $x^2 + bx + c$. • I can explain how to use b and c to find binomial factors of a polynomial $x^2 + bx + c$.

		Learning Target	Success Criteria
Chapter 7 continued			
	7.6 Factoring $ax^2 + bx + c$	Factor polynomials of the form $ax^2 + bx + c$.	• I can factor a polynomial using the GCF of the terms of the polynomial. • I can factor polynomials of the form $ax^2 + bx + c$. • I can explain how to use a, b, and c to find binomial factors of a polynomial $ax^2 + bx + c$.
	7.7 Factoring Special Products	Recognize and factor special products.	• I can factor the difference of two squares. • I can factor perfect square trinomials. • I can solve real-life problems by factoring using special product patterns.
	7.8 Factoring Polynomials Completely	Factor a polynomial by grouping and recognize when a polynomial is factored completely.	• I can factor polynomials by grouping. • I can factor polynomials completely. • I can solve real-life problems by factoring.

		Learning Target	Success Criteria
Chapter 8: Graphing Quadratic Functions			
Chapter Learning Target Understand graphing quadratic functions. **Chapter Success Criteria** • I can identify characteristics of quadratic functions. • I can describe how to graph quadratic functions in different forms. • I can find zeros of functions using intercept form. • I can choose an appropriate function to model data.	8.1 Graphing $f(x) = ax^2$	Graph and describe functions of the form $f(x) = ax^2$.	• I can identify characteristics of quadratic functions and their graphs. • I can graph quadratic functions of the form $f(x) = ax^2$. • I can compare the graph of $f(x) = ax^2$ to the graph of the parent quadratic function $f(x) = x^2$.
	8.2 Graphing $f(x) = ax^2 + c$	Graph and describe functions of the form $f(x) = ax^2 + c$.	• I can graph quadratic functions of the form $f(x) = ax^2 + c$. • I can compare the graph of $f(x) = ax^2 + c$ to the graph of the parent quadratic function. • I can describe translations of the graph of $f(x) = ax^2 + c$. • I can find zeros of $f(x) = ax^2 + c$.
	8.3 Graphing $f(x) = ax^2 + bx + c$	Graph and describe functions of the form $f(x) = ax^2 + bx + c$.	• I can find the axis of symmetry and vertex of a quadratic function. • I can graph quadratic functions of the form $f(x) = ax^2 + bx + c$. • I can determine a maximum or minimum value of a quadratic function.
	8.4 Graphing $f(x) = a(x - h)^2 + k$	Graph and describe functions of the form $f(x) = a(x - h)^2 + k$.	• I can identify even and odd functions. • I can graph quadratic functions of the form $f(x) = a(x - h)^2 + k$. • I can compare the graph of $f(x) = a(x - h)^2$ to the graph of the parent quadratic function. • I can compare the graph of $f(x) = a(x - h)^2 + k$ to the graph of the parent quadratic function.

		Learning Target	Success Criteria
Chapter 8 continued			
	8.5 Using Intercept Form	Graph and use functions in intercept form.	• I can graph quadratic functions of the form $f(x) = a(x - p)(x - q)$. • I can find zeros of functions using intercept form. • I can use characteristics to graph and write quadratic functions and cubic functions.
	8.6 Comparing Linear, Exponential, and Quadratic Functions	Compare the characteristics of linear, exponential, and quadratic functions.	• I can determine whether data can be represented by a linear, exponential, or quadratic function. • I can write functions to model data. • I can compare functions using average rates of change.

		Learning Target	Success Criteria
Chapter 9: Solving Quadratic Equations			
Chapter Learning Target Understand solving quadratic equations. **Chapter Success Criteria** • I can simplify expressions using properties of radicals. • I can describe different methods for solving quadratic equations. • I can solve quadratic equations. • I can solve nonlinear systems of equations graphically and algebraically.	9.1 Properties of Radicals	Use properties of radicals to write equivalent expressions.	• I can use properties of square roots to write equivalent expressions. • I can use properties of cube roots to write equivalent expressions. • I can rationalize the denominator of a fraction. • I can perform operations with radicals.
	9.2 Solving Quadratic Equations by Graphing	Use graphs to solve quadratic equations and find zeros of functions.	• I can solve quadratic equations by graphing. • I can use graphs to find and approximate zeros of functions. • I can use technology to find a quadratic model for a set of data.
	9.3 Solving Quadratic Equations Using Square Roots	Solve quadratic equations using square roots.	• I can find the square roots of a number. • I can solve quadratic equations using square roots. • I can approximate solutions of quadratic equations.
	9.4 Solving Quadratic Equations by Completing the Square	Solve quadratic equations and find maximum and minimum values of quadratic functions by completing the square.	• I can complete the square for an expression of the form $x^2 + bx$. • I can solve quadratic equations by completing the square. • I can find maximum and minimum values of quadratic functions by completing the square.

		Learning Target	Success Criteria
Chapter 9 continued			
	9.5 Solving Quadratic Equations Using the Quadratic Formula	Use the Quadratic Formula and its discriminant to solve and analyze quadratic equations.	• I can solve quadratic equations using the Quadratic Formula. • I can find and interpret the discriminant of an equation. • I can choose an efficient method for solving a quadratic equation and explain my choice of method.
	9.6 Solving Nonlinear Systems of Equations	Solve nonlinear systems graphically and algebraically.	• I can solve nonlinear systems graphically. • I can solve nonlinear systems algebraically. • I can approximate the solutions of nonlinear systems.

		Learning Target	Success Criteria
Chapter 10: Radical Functions and Equations			
Chapter Learning Target Understand radical functions and equations. **Chapter Success Criteria** • I can identify domains and ranges of radical functions. • I can graph square root and cube root functions. • I can solve radical equations. • I can find inverses of relations and functions.	10.1 Graphing Square Root Functions	Graph and describe square root functions.	• I can find the domain and range of a square root function. • I can graph square root functions. • I can graph and describe transformations of square root functions. • I can use square root functions to solve real-life problems.
	10.2 Graphing Cube Root Functions	Graph and describe cube root functions.	• I can graph cube root functions. • I can graph and describe transformations of cube root functions. • I can use cube root functions to solve real-life problems.
	10.3 Solving Radical Equations	Solve radical equations and identify any extraneous solutions.	• I can identify radical equations. • I can solve radical equations. • I can identify extraneous solutions of radical equations. • I can solve real-life problems involving radical equations.
	10.4 Inverse of a Function	Understand the relationship between inverse functions.	• I can explain what inverse functions are. • I can find inverses of functions algebraically. • I can determine if the inverse of a function is also a function.

		Learning Target	Success Criteria
Chapter 11: Data Analysis and Displays			
Chapter Learning Target Understand data. **Chapter Success Criteria** • I can interpret data displays. • I can describe the shapes of data distributions. • I can represent data in different ways. • I can analyze data.	11.1 Measures of Center and Variation	Find measures of center and variation of a data set.	• I can find and compare the measures of center of a data set. • I can find measures of variation of a data set. • I can describe effects of data transformations.
	11.2 Box-and-Whisker Plots	Make and interpret box-and-whisker plots for data sets.	• I can make box-and-whisker plots to represent data sets. • I can interpret box-and-whisker plots. • I can use box-and-whisker plots to compare data sets. • I can explain how to identify outliers in a data set.
	11.3 Shapes of Distributions	Describe and compare shapes of distributions.	• I can describe the shape of a distribution. • I can determine which measures of center and variation best represent a data set. • I can compare data sets.
	11.4 Two-Way Tables	Use two-way tables to represent data.	• I can find and interpret marginal frequencies. • I can make two-way tables. • I can find and interpret relative frequencies and conditional relative frequencies. • I can recognize associations and trends in data using two-way tables.
	11.5 Choosing a Data Display	Use appropriate data displays to represent situations.	• I can classify data as qualitative or quantitative. • I can create an appropriate data display and explain the choice of display. • I can identify misleading data displays.