



## Algebra 1 Pacing Guide 19-20

4.0 Target	3.0 Target	2.0 Target	Pacing & Unit Dates
<b>Unit #1: Solve Linear Equations and Inequalities</b>			
Create, solve, and interpret an abstract complex equation when given constraints.	SHS.LT.SLEI.1: Create an equation in one-variable to represent a relationship with constraints, solve the equation, and interpret the solutions.	Create, solve, or interpret an equation.	<b>14 Days</b> <b>Unit Dates:</b> <b>August 15 - September 6</b> <b>Benchmark Dates:</b> <b>August 30 - September 6</b> <b>Trimester #1</b>
Consistently rearrange complex formulas with multiple repetitions of one quantity.	SHS.LT.SLEI.2: Solve equations in terms of other variables. (including finding the inverse of a linear functions)	Rearrange one-step formulas to highlight a quantity of interest.	
Create, solve, and interpret an abstract complex inequality when given constraints.	SHS.LT.SLEI.3: Create an inequality in one-variable to represent a relationship with constraints, solve the inequality, and interpret the solutions.	Create, solve, or interpret an inequality.	
Solve and graph two linear inequalities in one variable (compound inequalities) when the solution(s) contradict the original inequality.	SHS.LT.SLEI.4: Solve two linear inequalities in one variable (compound inequalities) and represent the solution graphically.	Show algebraic steps in solving basic inequalities.	
N/A	SHS.LT.SLEI.P.5: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	SHS.LT.0: Demonstrate ability to retain content knowledge over time.	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #2: Graph and Write Equations of Lines</b>			
Find and interpret the domain and range of a linear function when given a real world situation.	SHS.LT.GWEL.1: Calculate and interpret key features of linear functions (intercepts, slope, solutions, domain, range) represented by graphs, tables, and equations in and out of context.	Find key features of linear functions represented by graphs, tables, and equations.	<b>23 days</b> <b>Unit Dates:</b> <b>September 7 - October 16</b> <b>Benchmark Dates:</b> <b>October 9 - October 16</b> <b>Trimester #1</b>
Analyze/correct errors when evaluating and interpreting function notation.	SHS.LT.GWEL.2: Use function notation to evaluate functions and interpret function notation in terms of context.	Use function notation to evaluate functions.	
N/A	SHS.LT.GWEL.3: Graph a linear equation and inequality.	Graph a linear equation or inequality in slope intercept form.	
Create and compare linear equations/inequalities represented by situations.	SHS.LT.GWEL.4: Create linear equations and inequalities represented by graphs, tables, and situations.	Create a linear equation/inequality that models a situation.	
N/A	SHS.LT.GWEL.5: Evaluate, graph and write piecewise functions expressed symbolically or graphically by hand in simple cases (including step functions).	Graph or write piecewise functions expressed symbolically or graphically by hand in simple cases.	
N/A	SHS.LT.GWEL.P.6: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	SHS.LT.0: Demonstrate ability to retain content knowledge over time.	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #3: System of Linear Equations and Inequalities</b>			
Create a system of linear equations/inequalities in three variables modeling a context.	SHS.LT.SLEI.1: Create a system of linear equations and inequalities to represent a relationship between quantities.	Create a system of linear equations/inequalities to represent a relationship given a graph.	<b>15 days</b> <b>Unit Dates:</b> <b>October 16 - November 6</b> <b>Benchmark Dates:</b> <b>October 30 - November 6</b> <b>Trimester #1</b>
Create and solve systems of three or more linear equations/inequalities by graphing and interpret the solution as viable or non-viable in a modeling context.	SHS.LT.SLEI.2: Solve systems of linear equations and inequalities by graphing and interpret the solution as viable or non-viable in a modeling context.	Solve a system of linear equations/inequalities by graphing.	
Solve a system of linear equations in three variables exactly (substitution, elimination).	SHS.LT.SLEI.3: Solve systems of linear equations exactly (substitution, elimination) and interpret the solution as viable or non-viable in a modeling context.	Solve a system of linear equations using a single method (substitution or elimination).	
N/A	SHS.LT.SLEI.P.4: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	SHS.LT.0: Demonstrate ability to retain content knowledge over time.	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #4: Statistical Models of Linear Functions</b>			

Use real world data, not represented in a basic table, to generate regression lines and make predictions that associates with everyday decisions.	<b>SHS.LT.SM.1: Use technology to generate the regression line to make predictions and interpret the correlation coefficient of a linear model.</b>	Use technology to generate the regression line and correlations coefficient of a linear model.	<b>11 days</b>  <b>Unit Dates:</b> <b>November 7 - November 25</b>  <b>Benchmark Dates:</b> <b>November 19 - November 25</b>  <b>Trimester #2</b>
N/A	<b>SHS.LT.SM.2: Distinguish between correlation and causation given a real world context and write a correct interpretation.</b>	Give basic definition of correlations and causation.	
N/A	<b>SHS.LT.SM.3: Informally assess the fit of a function by plotting and analyzing residuals.</b>	Identify when a linear model is appropriate based on residual plots.	
N/A	<b>SHS.LT.SMLF.P.4: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.</b>	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	<b>SHS.LT.0: Demonstrate ability to retain content knowledge over time.</b>	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #5: Transformations and Non-Linear Function Notation</b>			
Use a graph to describe multiple transformations and write the equation using function notation.	<b>SHS.LT.T.1: Identify and graph the effect of a transformation on a function including function notation including vertical and horizontal shifts, reflections over the x and y axis, and vertical stretches and compressions.</b>	Identify the effect of a transformation on a function.	<b>15 Days</b>  <b>Unit Dates:</b> <b>November 26 - January 6</b>  <b>Assessment Dates:</b> <b>December 16 - January 6</b>  <b>Trimester #2</b>
N/A	<b>SHS.LT.T.2: Identify and graph equations of parent functions (quadratic, square root, and absolute value) including transformations.</b>	Graph equations of parent functions.	
N/A	<b>SHS.LT.T.P.3: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.</b>	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	<b>SHS.LT.0: Demonstrate ability to retain content knowledge over time.</b>	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #6: Laws of Exponents &amp; Exponential Functions</b>			
Apply all of the properties of exponents to rewrite and simplify algebraic expressions completely requiring multiple steps.	<b>SHS.LT.LEEF.1: Apply the properties of exponents to rewrite and simplify algebraic expressions completely with integer and rational exponents.</b>	Apply the properties of exponents to rewrite algebraic expressions.	<b>19 days</b>  <b>Unit Dates:</b> <b>January 7 - February 4</b>  <b>Benchmark Dates</b> <b>January 29 - February 4</b>  <b>Trimester #2</b>
Write and solve radical expressions or rational exponents in a real world context.	<b>SHS.LT.LEEF.2: Write radical expressions as expressions with rational exponents, and write expressions with rational exponents as radical expressions.</b>	Write radical expressions as expressions with rational exponents or write expressions with rational exponents as radical expressions.	
N/A	<b>SHS.LT.LEEF.3: Calculate and interpret key features of functions represented by graphs, tables, and equations in and out of context.</b>	Calculate or interpret key features of functions represented by graphs, tables, and equations in and out of context.	
Graph exponential functions when given a real world situation and analyze the problem to reason about viable solutions.	<b>SHS.LT.LEEF.4: Graph exponential functions, showing intercepts and end behavior.</b>	Graph exponential functions.	
Write an equation from a real world situation and assess resale value of products.	<b>SHS.LT.LEEF.5: Create exponential equations given a graph, table, or situation.</b>	Create exponential equations when given pertinent information.	
N/A	<b>SHS.LT.LEEF.6: Solve and interpret equations and inequalities using graphs and tables with technology.</b>	Solve equations and inequalities using graphs and tables with technology.	
N/A	<b>SHS.LT.LEEF.7: Use technology to generate the appropriate regression equation and make predictions given a data set.</b>	Use technology to generate regression equations.	
N/A	<b>SHS.LT.LEEF.P.8: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.</b>	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	<b>SHS.LT.0: Demonstrate ability to retain content knowledge over time.</b>	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #7: Quadratic Functions and Polynomial Expressions</b>			
Add, subtract, and multiply polynomial expressions given a geometric figure.	<b>SHS.LT.QFOP.1: Add, subtract, and multiply polynomial expressions to simplify completely.</b>	Show evidence of basic understanding in adding, subtracting, and multiplying polynomial expressions.	<b>28 days</b>  <b>Unit Dates:</b> <b>February 5 - March 20</b>  <b>Benchmark Dates:</b> <b>March 13 - March 20</b>
Factor a complex polynomial expression.	<b>SHS.LT.QFOP.2: Factor polynomial expressions completely.</b>	Show evidence of basic understanding in factoring.	
Analyze and explain key features of quadratic functions with unknown values.	<b>SHS.LT.QFOP.3: Calculate and interpret key features of functions represented by graphs tables and equations in and out of context.</b>	Identify key features of quadratic functions.	
N/A	<b>SHS.LT.QFOP.4: Graph quadratic functions and show key features.</b>	Graph key features of the given quadratic form.	
Write the equation of a quadratic function that represents a real world application when given constraints.	<b>SHS.LT.QFOP.5: Create quadratic equations given a graph, table, and situation.</b>	Create quadratic equations given a graph, table, or situation.	
N/A	<b>SHS.LT.QFOP.6: Rewrite quadratic functions in different but equivalent forms to reveal and explain key features.</b>	Rewrite quadratic functions in different but equivalent forms.	
<b>Unit #8: Rational Functions and Radical Expressions</b>			

N/A	SHS.LT.QFOP.7: Use technology to generate the appropriate regression equation and make predictions.	Use technology to generate regression equations.	<b>Trimester #3</b>
N/A	SHS.LT.QFOP.P.8: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	SHS.LT.0: Demonstrate ability to retain content knowledge over time.	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #8: Quadratic Equations</b>			
N/A	SHS.LT.QE.1. Solve quadratic equations by finding square roots.	Solve quadratic equations by finding square roots in simple cases.	<b>18 days</b> <b>Unit Dates:</b> <b>March 21 - April 28</b> <b>Benchmark Dates:</b> <b>April 21 - April 28</b> <b>Trimester #3</b>
Solve quadratic equations involving real world geometric applications.	SHS.LT.QE.2. Solve quadratic equations by using the quadratic formula.	Set up the quadratic formula by correctly substituting the terms into the proper location.	
Use knowledge of sequences and patterns of integers to factor a quadratic equation.	SHS.LT.QE.3: Solve quadratic equations by factoring.	Demonstrates basic understanding of factoring to solve quadratic equations.	
Rewrite complex radicals into equivalent forms.	SHS.LT.QE.4: Approximate irrational numbers with or without a calculator and rewrite radicals into equivalent forms.	Rewrite basic radical expressions into equivalent forms.	
Solve a system of a linear and quadratic equations when given a graph with limited information.	SHS.LT.QE.5: Solve a system consisting of a linear equation and a quadratic equation in two variables algebraically.	Solve a simple system by identifying the x coordinates of the solution.	
N/A	SHS.LT.QE.6: Solve equations and inequalities using graphs and tables and by graphing calculator.	Solve equations and inequalities using graphs, tables or by graphing calculator.	
N/A	SHS.LT.QE.P.7: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	SHS.LT.0: Demonstrate ability to retain content knowledge over time.	Demonstrate ability to partially retain content knowledge over time.	
<b>Unit #9: Descriptive Statistics</b>			
N/A	SHS.LT.DS.1: Represent data using histograms and box-plots and analyze information from the graphical display of data.	Represent data using dot plots, histograms, and box-plots.	<b>13 days</b> <b>Unit Dates:</b> <b>April 29 - May 29</b> <b>Benchmark Dates:</b> <b>May 21 - May 29</b> <b>Trimester #3</b>
N/A	SHS.LT.DS.2: Analyze and interpret shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	Make general observations about the shape, center, and spread in the context of the data set.	
N/A	SHS.LT.DS.3: Use statistics appropriate to the shape of the data distribution to compare center (mean, median) and spread (interquartile range, standard deviation) of two different data sets.	Identify statistics appropriate to the shape of the data distribution.	
Summarize categorical data using knowledge of systems of equations to create two way frequency tables.	SHS.LT.DS.4. Summarize and interpret data on two categorical variables.	Organization data into a two-way frequency table when numerical values of given explicitly.	
N/A	SHS.LT.DS.P.5: Demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	Partially demonstrates ability to be precise when solving problems and/or when communicating mathematical thinking.	
N/A	SHS.LT.0: Demonstrate ability to retain content knowledge over time.	Demonstrate ability to partially retain content knowledge over time.	