CURRICULUM UNIT MAP

1ST QUARTER

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit 1: Exploring Rational Numbers **WEEK 1-3 Objectives:** Write equations and formulas to solve application problems Compare order and plot rational and irrational numbers, including square roots, absolute values, and pi on the number line Add, and subtract rational numbers, including those involving absolute value, to simplify expressions Multiply and divide rational numbers to simplify expressions	State the coordinate of a point on a number line Graph integers on a number line Interpret numerical data from a table Display and interpret statistical d I can find the absolute value of a number Add and subtract integers Compare and order rational numbers Find a number between two rational numbers Add and subtract rational numbers Simplify expressions that contain rational numbers Multiply rational numbers Divide rational numbers Find square roots Classify numbers Graph solutions of inequalities on number line Explore problem situations Translate verbal sentences on a line	<u>Clicker Quizzes over the following:</u> Given a verbal sentence translate into an algebraic equation or formula Evaluate algebraic expressions involving fractions, decimals, square roots, and or powers Compare real numbers in various forms (fractions, decimals, square roots, and or powers) in an application setting Simplify algebraic expressions involving the *, /, +, and or - of real numbers Given the values for each variable, evaluate algebraic expressions involving *, /, +, or - of real numbers	Unit Benchmark Assessment
Unit 2 **WEEK 4-7—OBJECTIVES** Solve one-step equations using addition, subtraction, multiplication or division, including those involving fractions and decimals	Solve equations by adding/subtracting Solve equations by multiplying/dividing Solve equations involving more than one operation Solve problems by working backward Find compliment/supplement of an angle Find the measure of the third angle of a triangle given the other two		

CURRICULUM UNIT MAP
1ST QUARTER (Cont'd)

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit 2 **WEEK 4-7—OBJECTIVES (Cont'd):** Solve multi-step equations including equations with variables on both sides, including those involving formulas	Solve equations with variable on both sides Solve equations containing grouping symbols Solve equations and formulas for a specified variable Find and interpret the mean, median, and mode of a set of data	Clicker Quizzes over: Work one-step equations independently Work multi-step equations Solving equations for a variable Find the mean, median, and mode of a set of data and interpret the data	Unit 2 Benchmark Assessment
Unit: 3 Using Proportional Reasoning **WEEK 8-9—OBJECTIVES** Solve percent problems using algebraic equations, including discounts, sales tax, and percent of increase or decrease	Solve proportions Find the unknown measures of the sides of two similar triangles Use trigonometric ratios to solve right triangles Solve percent problems Solve problems involving simple interest Solve problems involving percent of increase and decrease Solve problems involving discounts or sales tax Find the probability of a simple event Find the odds of a simple event Solve mixture problems Solve problems involving uniform motion Solve problems involving direct and inverse variation	**Clicker Quizzes Over:** Work equations to solve percent problems Work problems involving simple interest and sales tax Find probability of certain events	Unit 3 Benchmark Assessment

CURRICULUM UNIT MAP
2nd QUARTER

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 4 Graphing Relations and Functions. **WEEK 1-3—OBJECTIVES:** Graph Linear equation by various methods, including plotting points, x-y intercepts, and using slope-intercept form Identify the domain, range, and inverse of a relation and show relations a graph, mapping, table, and set of ordered pairs. (5.2) Use 5.1 as pre-skill Find the value of a function for a given element of the domain, determine whether it is a relation and graph the solution set and analyze graphs; x- and y-intercepts, domain, range, increasing, decreasing, and minimum and maximum values Write linear equations two-variables in Point-slope form and slope-intercept form given various conditions, including a graph, two points, slope and a point	I can graph ordered pairs on a coordinate plane I can solve problems by making a table I can identify the domain, range, and inverse of a relation I can determine the range for a given domain I can graph the solution set for the given domain I can graph linear equations I can determine whether a given relation is a function I can find the value of a function for a given element of the domain I can write equations to represent relations, given some of the solutions for the equations I can calculate and interpret the range, quartiles, and interquartile range of sets of data	Clicker Quizzes Over: Graph each equation in slope-intercept form independently State each domain, range, and inverse of a relation Determine whether each relation is a function from table, mapping, or ordered pairs Write an equation from each given pattern	Unit 4 Benchmark Assessment

CURRICULUM UNIT MAP
2nd QUARTER (Cont'd)

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 5 Analyzing Linear Equations **WEEK 4-6—OBJECTIVES:** Write the equations of a line in slope intercept form given one of the following: x & y intercepts, two points, or one point and perpendicular or parallel line	Find the slope of a line, given the coordinates of two points on the line Write linear equation in point-slope form Graph/interpret points on a scatter plot Draw and write equations for best fit lines Solve problems by using models Determine the x and y intercepts of linear graphs from their equations Write equations in slope-intercept form Write and solve direct variation equations Graph a line given any linear equation Determine if two lines are parallel or perpendicular by their slope Write equations of lines that pass through a give point parallel or perpendicular to a given line	Clicker Quizzes Over: Determine the x- and y-intercept from equations Finding the x and y intercepts Graphing a line Parallel and perpendicular lines	Unit 5 Benchmark Assessment
Unit: 6 Solving Linear Inequalities **WEEK 7-9—OBJECTIVES:** Write, solve, and graph linear inequalities by using more than one operation Write, solve, and graph one-step and two-step inequalities by using addition, subtraction, multiplication, and division Solve compound inequalities and applications that involve compound inequalities, (including those involving absolute value) and graph their solution sets	Solve inequalities by using addition and subtraction Solve inequalities by using multiplication and division Solve linear inequalities involving more than one operation Find the solution set for a linear inequality when replacement values are given for the variables Solve problems by making a diagram Solve compound inequalities and graph their solutions Solve problems that involve compound inequalities Find the probability of a compound event	**Clicker Quizzes Over:** Work multi-step inequalities Work one-step inequalities Working compound inequalities and graph their solution set	

CURRICULUM UNIT MAP
2nd QUARTER (Cont'd)

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 6 Solving Linear Inequalities **WEEK 7-9—OBJECTIVES (Cont'd):** Solve and graph inequalities in two variables and use the graphing calculator to graph linear equations and apply techniques to system of two inequalities	Solve open sentences involving absolute value and graph solutions Display and interpret data on a box and whisker plot Graph inequalities on the coordinate plane		Unit 6 Benchmark Assessment

CURRICULUM UNIT MAP
3rd QUARTER

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 7 Solving Systems of Linear Equations and Inequalities. **WEEK 1-3—OBJECTIVES:** Solve systems of equations in two variables using substitution, and/or graphing by hand and on the graphing calculator	Solve system of equations by graphing Solve systems of equations by using the substitution method Organize data to solve problems Solve systems of equations by using the elimination method with addition and subtraction Solve systems of equations by using the elimination method with addition and subtraction Determine the best method for solving systems of equations Solve systems of inequalities by graphing	Clicker Quizzes Over: Solving systems of equations by graphing Solving systems of equations by substitution Solving systems of equations by elimination	Unit 7 Benchmark Assessment
Unit: 8 Exploring Polynomials **WEEK 4-6—OBJECTIVES:** Using the rules of exponents simplify monomials that includes multiplication, division, negative exponents, and raising powers to a power Express numbers in scientific notation including the products and quotients of such numbers including applications in science Add, subtract, multiply, and divide polynomials including those applications that involve irregular geometric areas	Multiply monomials Simplify expressions involving powers of monomials Simplify expressions involving quotients of radicals Simplify expressions containing negative exponents Express numbers in scientific and standard notation Find products and quotients of numbers expressed in scientific notation Find the degree of a polynomial Arrange the terms of a polynomial so the powers Add and subtract polynomials Multiply a polynomial by a monomial Simplify involving polynomials Use FOIL to multiply two binomials	Clicker Quizzes Over: Simplifying expressions containing exponents positive and negative Scientific Notation Finding degree of a polynomial and arranging it FOIL method Distributive Property Perfect squares	Unit 8 Benchmark Assessment

CURRICULUM UNIT MAP
3rd QUARTER (Cont'd)

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 8 Exploring Polynomials **WEEK 4-6—OBJECTIVES (Cont'd):** Add, subtract, multiply, and divide polynomials including those applications that involve irregular geometric areas.	Multiply any two polynomials by using distributive property Use patterns to find perfect square polynomials		
Unit: 9 Using Factoring **WEEK 7-9—OBJECTIVES:** Factor using techniques involving; finding GCF, distributive property, factors by grouping; and apply techniques to area application problems Factor quadratic trinomials using AC method and graphing techniques, identify and factor the difference of two squares	Find prime factorizations of integers Find greatest common factors for stets of monomials Use the GCF and distributive property to factor polynomials Use graphing techniques to factor polynomials what four or more terms Solve problems by using guess and check Solve problems by using guess and check Factor quadratic trinomials Identify and factor binomials that are difference of squares Identify and factor perfect square trinomials Use the zero product property to solve equations	Clicker Quizzes Over: Finding greatest common factors Use the GCF to factor polynomials Factoring quadratic trinomials	Unit 9 Benchmark Assessment

CURRICULUM UNIT MAP
4th QUARTER

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 10 Exploring Quadratic and Exponential Functions **WEEK 1-3—OBJECTIVES:** Analyze graphs of quadratic and exponential functions; including identifying vertex, axis of symmetry, intercepts, and simple translations using the graphing calculator	Graph a quadratic function using the Y= function on the graphing calculator Identify the vertex, axis of symmetry, and intercepts from a quadratic graph Predict the outcome of a translation of a quadratic function Describe the effects (parameter change) of y=a(x-b) ^2+c, when a, b, and c are manipulated Graph an exponential function using the Y= function on the graphing calculator Predict the outcome of a translation of an exponential graph Determine whether a graph will be linear, absolute value, quadratic, or exponential from a data table	Clicker Quizzes Over: Graphing on the calculator Graphing exponential functions Determining how a graph is going to look	Unit 10 Benchmark Assessment
Unit: 11 Probability and Statistics **WEEK 4-6—OBJECTIVES:** Interpret numerical data from a table, line plot, stem and leaf plot or circle graph and be able to create a table, line plot, stem and leaf plot, or circle graph from a data set Calculate and interpret the measures of central tendency and measures of variance from various representations	Construct a line plot from a date table Interpret data from a line plot, table, stem and leaf plot, or circle graph Calculate mean, median, and mode from a data set, table, or line plot Calculate range, quartiles, and Inter-quartile range from a data set or box plot Display and interpret data on a box plot Determine and discuss the distribution pattern of the data	Clicker Quizzes Over: Interpreting data from a graph Calculating range and quartiles Interpreting box plot.	Unit 11 Benchmark Assessment

CURRICULUM UNIT MAP
4th QUARTER

COURSE TITLE: Applied Algebra 1 **GRADE: 9**

Unit Title and Objectives	List CLTs for Each Objective	Brief Description of Formative Assessment(s)	End-of-Unit Benchmark or Performance Assessment
Unit: 12 Probability and Statistics **WEEK 7-9—OBJECTIVES:** Calculate probability and odds of a simple event, and find the probability of a compound event Create scatter plots, find regression line and its equation using the graphing calculators to make predictions and solve application problems	Calculate the probability of a simple event	Clicker Quizzes Over: Probability and odds of a simple event Determining a trend from a scatter plot	Unit 12 Benchmark Assessment
	Calculate the odds of a simple event		
	Calculate the geometric probability given a diagram		
	Determine the sample space of a compound event		
	Calculate the probability of a compound event		
	Create a scatter plot from a data table using the stat, list functions of the graphing calculator		
	Find the equation of the line of regression using the graphing calculator stat, calc features		
	Make a prediction using the line of regression equation or graph		
	Determine trend and or correlation from a scatter plot		