

Hesperia Community Schools

Grade: 8 and/or 9

Teacher:

Course: Algebra 1

Timeline (Semester, Week)	GLCE™s/HSCE™s CCSS	Content What topic(s) is being covered? What do students need to know?	Essential Skills: What do students have to be able to do to connect the content to the skills?	Vocabulary	Assessment: What evidence (products and/or performances is collected to establish that the content and skills have been learned?)	Resources What materials, texts, videos, internet, or software support instruction?
S1 W1,2,3,4, 5	L1.1.1 L1.1.2 L1.1.3 L1.1.4 L1.1.5 L1.1.6 L4.1.3 A1.1.1 A1.1.2 A1.1.3 A1.2.9 G1.1.1 G1.1.3 G1.1.5 G1.1.6	1.1 Variables and Expressions 1.2 Adding and Subtracting Real Numbers 1.3 Multiplying and Dividing Real Numbers 1.4 Powers and Exponents 1.5 Square Roots and Real Numbers 1.6 Order of Operations 1.7 Simplifying Expressions Connecting Algebra to Geometry - Perimeter 1.8 Introductions to Functions	TLW verbalize an expression that is presented in symbolic form and write an algebraic expression from verbal form. TLW evaluate expressions by substituting a given value for the variable, using order of operations. TLW manipulate terms involving exponents and roots and apply them in algebraic expressions. TLW develop an understanding of special integer properties and justify numerical relationships. TLW identify the differences between whole, integral, rational, and real numbers. TLW explain the difference between additive inverses and multiplicative inverses and when they have different signs. TLW explain how the properties of associativity, commutativity, and distributivity are used in arithmetic and algebraic calculations.	Absolute Value, Additive Inverse, Algebraic Expressions, axes, base, coefficient, constant, coordinate plane, evaluate, exponent, input, integers, irrational numbers, like terms, multiplicative inverse, natural numbers, numerical expression, opposites, order of operations, ordered pair, origin, output, perfect square, power, quadrant, rational numbers, real numbers, reciprocals, repeating decimals, square root, term, terminating decimal, variable, whole numbers, x-axis, x coordinates, y-axis, y coordinate	Homework Checks Objective Quizzes “Half Chapter” Quizzes Chapter Tests	Holt Algebra, Michigan Ed. 2007

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			<p>TLW explain how the properties of identity and inverse elements are used in arithmetic and algebraic calculations.</p> <p>TLW describe the reasons for different effects of multiplication of a positive number by a number less than 0, a number between 0 and 1, and a number greater than 1.</p> <p>TLW describe the reasons for different effects of multiplication by, or exponentiation of, a positive number by a number less than 0, a number between 0 and 1, and a number greater than 1.</p> <p>TLW calculate fluently with numerical expressions involving exponents.</p> <p>TLW understand the characteristics of imaginary numbers.</p> <p>TLW solve problems involving weighted averages, including GNP, consumer price index, and grade point average.</p>			
S1W2,3,4, 5,6,7,8	L1.1.1 L1.1.2 L1.1.3 L1.1.4 L1.1.6 L3.1.1	2.1 Solving Equations by Adding or Subtracting 2.2 Solving Equations by Multiplying and Dividing 2.3 Solving Two-Step and Multi-Step Equations 2.4 Solving Equations with	<p>TLW write and solve equations with one variable.</p> <p>TLW write and solve equations with absolute values.</p>	commission, contradiction, conversion factor, corresponding angles, corresponding sides, cross	Homework Checks Objective Quizzes "Half Chapter" Quizzes	

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	L3.1.2 L4.3.2 A1.1.1 A1.1.3 A1.2.8 A2.1.4 A2.2.3	Variables on Both Sides 2.5 Solving for a Variables 2.6 Rates, Ratios, and Proportions 2.7 Applications of Proportions 2.8 Percents 2.9 Applications of Percents 2.10 Percent Increase and Decrease		product, discount, equation, formula, identity, indirect measurement, interest, literal equation, markup, percent, percent change, percent decrease, percent increase, principal, proportion, rate, ratio, sales tax, scale, scale drawing, scale factor, scale model, similar, solution of an equation, tip, unit rate	Chapter Tests	
S1 W7,8,9,10 ,11,12,13	L1.1.1 L1.1.4, L1.2.1 L1.2.2 L3.1.2 L4.2.1 L4.2.2 L4.3.2 A1.1.1 A1.2.1 A1.2.3 A1.2.4	3.1 Graphing and Writing Inequalities 3.2 Solving Inequalities by Adding and Subtracting 3.3 Solving Inequalities by Multiplying and Dividing 3.4 Solving Two-Step and Multi-Step Inequalities 3.5 Solving Inequalities with Variables on both sides 3.6 Solving Compound Inequalities	TLW write, solve, and graph inequalities with one variable. TLW write, solve and graph compound inequalities. TLW solve and graph inequalities with absolute values.	compound inequality, inequality, intersection, solution of an inequality, union	Homework Checks Objective Quizzes “Half Chapter” Quizzes Chapter Tests	
S1 W10,11,1 2,13,	L1.2.1 A2.1.1 A2.1.2 A2.1.3 A2.1.4 A2.1.5 A2.1.6	4.1 Graphing Relationships 4.2 Relations and Functions, 4.3 Writing Functions 4.4 Graphing Functions 4.5 Scatter Plots and Trend Lines 4.6 Arithmetic Sequences	TLW identify whether a relationship is a function and identify its domain and range. TLW read, interpret, and use function notation and evaluate a function at a value in its	arithmetic sequence, common difference, continuous graph, correlation, dependent variable, discrete	Homework Checks Objective Quizzes “Half Chapter” Quizzes	

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	<p>S1.1.1 S2.1.1 S2.1.2 S2.1.3 S2.1.4</p>		<p>domain.</p> <p>TLW solve an equation involving several variables for a designated variable.</p> <p>Given appropriate information, TLW review graphing lines.</p> <p>TLW translate among representations of functions (symbols, graphs, tables, diagrams, or words).</p> <p>TLW construct a scatter plot for a bivariate data set with appropriate labels and scales.</p>	<p>graph, domain, function, function notation, function rule, independent variable, negative correlation, no correlation, positive correlation, range, relation, scatter plot, sequence, term, trend line</p>	<p>Chapter Tests</p>	
<p>S1 W13,14,1 5,16</p>	<p>L2.1.4 L4.3.2 A1.1.1 A1.2.9 A2.1.4 A2.1.6 A2.1.7 A2.2.2 A2.3.1 A2.3.2 A2.3.3 A2.4.1 A2.4.2 A2.4.3 A2.4.4 A2.5.1 A2.7.2 A2.7.3 A3.1.2 S2.2.1</p>	<p>5.1 Identifying Linear Functions 5.2 Using Intercepts 5.3 Rate of Change and Slope 5.4 The Slope Formula 5.6 Slope-Intercept Form 5.7 Point-Slope Form 5.8 Slopes of Parallel and Perpendicular Lines 5.9 Transforming Linear Functions</p>	<p>TLW describe the tabular pattern associated with functions having constant rate of change (linear) or variable rates of change.</p> <p>TLW solve applied problems involving functions.</p> <p>Given appropriate information, TLW review graphing lines.</p> <p>TLW identify and interpret key features of a function from its graph.</p> <p>TLW relate the coefficients in a linear function to the slope and x- and y-intercepts of its graph.</p>	<p>constant of variation, direct variation, family of functions, linear equation, linear function, parallel lines, parent function, perpendicular lines, rate of change, reflection, rise, rotation, run, slope, transformation, translation, x-intercept, y-intercept</p>	<p>Homework Checks</p> <p>Objective Quizzes</p> <p>“Half Chapter” Quizzes</p> <p>Chapter Tests</p>	

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			<p>TLW find an equation of the line parallel to a given line through a given point.</p> <p>TLW find an equation of the line perpendicular to a given line through a given point.</p> <p>TLW apply given transformations to parent functions and represent symbolically.</p> <p>TLW identify and interpret the key features of a function from its graph or its formula(e).</p> <p>TLW apply transformations (shifting, stretching, shrinking, reflecting) to basic functions and represent symbolically.</p>			
<p>S1 W15,16,17,18</p>	<p>L1.1.1 L1.2.2 L1.2.4 L2.1.1 A1.1.3 A1.2.3 S2.2.1 S2.2.2</p>	<p>6.1 Solving Systems by Graphing 6.2 Solving Systems by Substitution 6.3 Solving Systems by Elimination 6.4 Solving Special Systems 6.5 Solving Linear Inequalities 6.6 Solving Systems of Linear Inequalities</p>	<p>TLW solve a system of two simultaneous linear equations by graphing.</p> <p>TLW solve a system of two simultaneous linear equations by using linear combinations</p> <p>TLW solve a system of two simultaneous linear equations by substitution.</p> <p>TLW solve linear inequalities in two variables and graph the solution sets.</p> <p>TLW set up and solve applied problems involving</p>	<p>consistent system, dependent system, inconsistent system, independent system, linear inequality, solution of a linear inequality, solution of a system of linear equations, solution of a system of linear inequalities, system of linear equations, system of linear</p>	<p>Homework Checks</p> <p>Objective Quizzes</p> <p>“Half Chapter” Quizzes</p> <p>Chapter Tests</p>	

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			simultaneous linear equations and inequalities.	inequalities		
S2 W1,2,3,4, 5,6	L1.1.1 L1.1.2 L1.1.4 L2.1.1 L2.1.2 L2.1.3 L3.1.1 L3.1.2 A1.1.1 A1.1.3 A1.1.4 A1.2.9 A2.2.1 A2.7.1 A2.8.1 A2.8.2	7.1 Integer Exponents 7.2 Powers of 10 and Scientific Notation 7.3 Multiplication Properties of Exponents 7.4 Division Properties of Exponents 7.5 Polynomials 7.6 Adding and Subtracting Polynomials 7.7 Multiplying Polynomials 7.8 Special Products of Binomials	TLW add and subtract polynomials. TLW multiply and divide polynomials. TLW determine the greatest common factor of a polynomial. TLW recognize and factor the difference of squares. TLW recognize and factor the sum or difference of cubes. TLW recognize and factor general trinomials and perfect square trinomials.	binomial, cubic, degree of a monomial, degree of a polynomial, difference of two squares, leading coefficient, monomial, perfect-square trinomial, polynomial, quadratic, scientific notation, standard form of a polynomial, trinomial	Homework Checks Objective Quizzes “Half Chapter” Quizzes Chapter Tests	
S2 W4,5,6,7, 8,9	A1.1.3 A2.8.3	8.1 Factors and Greatest Common Factors 8.2 Factoring By the GCF 8.3 Factoring x^2+bx+c 8.4 Factoring ax^2+bx+c 8.5 Factoring Special Products 8.6 Choosing a Factoring Method		Greatest Common Factors Prime Factorization	Homework Checks Objective Quizzes “Half Chapter” Quizzes Chapter Tests	
S2 W6,7,8,9, 10,11,12,1 3	L4.3.2 A1.1.2 A1.2.3 A1.2.9 A2.6.1 A2.6.2 A2.6.3	9.1 Identifying Quadratic Functions 9.2 Characteristics of Quadratic Functions 9.3 Graphing Quadratic Functions	TLW describe the tabular pattern associated with functions having constant or variable rate of change and relate them to linear and quadratic functions.	axis of symmetry completing the square maximum minimum parabola quadratic equation	Homework Checks Objective Quizzes “Half Chapter” Quizzes	

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	<p>A2.6.4 A2.6.5</p>	<p>9.4 Transforming Quadratic Functions 9.5 Solving Quadratic Equations by Graphing 9.6 Solving Quadratic Equations by Factoring 9.7 Solving Quadratic Equations by Using Square Roots 9.8 Completing the Square 9.9 The Quadratic Formula and the Discriminant</p>	<p>TLW solve applied problems involving functions.</p> <p>TLW apply given transformations to parent functions and represent symbolically.</p> <p>TLW relate the number of real solutions of a quadratic equation to the graph of the associated quadratic function.</p> <p>TLW identify and interpret the key features of a function from its graph or its formula(e).</p> <p>TLW apply transformations (shifting, stretching, shrinking, reflecting) to basic functions and represent symbolically.</p>	<p>quadratic function vertex zero of a function</p>	<p>Chapter Tests</p>	
<p>S2 W9,10,11, 12,13,14</p>	<p>L4.1.1 L4.1.2</p>	<p>10.1 Organizing and Displaying Data in tables and graphs 10.2 Frequency and Histograms 10.3 Data Distribution (mean, median, mode, box and whisker plots) 10.4 Misleading Graphs and Statistics 10.5 Experimental Probability 10.6 Theoretical Probability 10.7 Independent and Dependent events 10.8 Combinations and Permutations</p>	<p>TLW organize and summarize a data set in a table, plot, chart, or spreadsheet, find patterns in a display of data, understand and critique data displays in the media.</p> <p>TLW construct a scatter plot for a bivariate data set with appropriate labels and scales.</p> <p>Given a scatter plot, TLW identify patterns, clusters, and outliers and recognize no correlation, weak correlation, or strong correlation.</p>	<p>combination compound event dependent events experimental probability frequency independent events median outlier permutation probability quartile theoretical probability</p>	<p>Homework Checks Objective Quizzes “Half Chapter” Quizzes Chapter Tests</p>	

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			TLW differentiate between correlation and causation, know that a strong correlation does not imply a cause-and-effect relationship and recognize the role of lurking variables in correlation.			
S2 W11,12,13,14,15,16,17	A2.5.4 A2.5.5 A2.7.1 A2.8.2 A3.1.1 A3.1.2 A3.1.3 A2.7.1 A2.8.2 A1.2.7 A1.2.9 L4.3.2 L4.1.1 L4.1.2 L4.1.3	11.1 Geometric Sequences 11.2 Exponential Functions 11.3 Exponential Growth and Decay(half-life, compound interest) 11.4 Distinguishing between: Linear, Quadratic and Exponential Functions 11.5 Square Root Functions 11.6 Radical Expressions 11.7 Adding and Subtracting radical equations 11.8 Multiplying and Dividing radical equations 11.9 Solving radical equations	TLW solve applied problems involving functions. TLW apply given transformations to parent functions and represent symbolically. TLW identify and interpret the key features of a function from its graph or its formula(e). TLW write the symbolic form and sketch the graph of power functions identifying 'n' and 'k'. Given appropriate information, TLW write the symbolic form and sketch the graph of an exponential function. TLW explain that the base of an exponential function determines whether the function increases (growth) or decreases (decay). TLW explain that the base of an exponential function determines whether the	common ratio compound interest exponential decay exponential growth extraneous solution geometric sequence half-life like radicals radical equation radical expressions radicand square-root function	Homework Checks Objective Quizzes "Half Chapter" Quizzes Chapter Tests	

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			<p>function increases (growth) or decreases (decay).</p> <p>TLW apply transformations (shifting, stretching, shrinking, reflecting) to basic functions and represent symbolically.</p>			
<p>S2 W14,15,16,17,18</p>	<p>L1.1.6 L1.3.3 L2.1.2 A1.1.1 A1.1.5 A1.1.6 A1.2.2 A1.2.5 A1.2.10 A2.1.7 A2.3.1 A2.7.2 A2.9.1 A2.9.2 A2.10.1 A2.10.2 A2.10.3 A2.10.4 A2.10.5 A3.1.2</p>	<p>12.1 Inverse Variation 12.2 Rational Functions 12.3 Simplifying Rational Expressions Graph Rational Functions 12.4 Multiplying, and Dividing rational expressions 12.5 Adding and Subtracting rational expressions 12.6 Dividing Polynomials 12.7 Solving Rational Equations</p>	<p>TLW solve applied problems involving functions.</p> <p>TLW multiply and divide polynomials.</p> <p>TLW apply given transformations to parent functions and represent symbolically.</p> <p>TLW identify and interpret the key features of a function from its graph or its formula(s).</p> <p>TLW express directly and inversely proportional relationships as functions and recognize their characteristics.</p> <p>TLW identify and interpret the key features of an inverse variation function from its graph or its formula(s).</p> <p>TLW solve power equations and equations involving radical expressions checking for extraneous solutions.</p> <p>TLW write the symbolic form and sketch the graph of power</p>	<p>asymptote discontinuous function excluded value inverse variation</p>	<p>Homework Checks</p> <p>Objective Quizzes</p> <p>“Half Chapter” Quizzes</p> <p>Chapter Tests</p>	

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			functions identifying 'n' and 'k'. TLW apply transformations (shifting, stretching, shrinking, reflecting) to basic functions and represent symbolically.			
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