

Oak Grove Curriculum Scope & Sequence

TAG Algebra 1 (Grade 8)

Updated 11.4.15

Unit Length	Unit / Skills <ul style="list-style-type: none"> <li>● We are learning to...               <ul style="list-style-type: none"> <li>○ Summative Skills</li> </ul> </li> </ul>	Instructional Strategies	Resources	Assessments <ul style="list-style-type: none"> <li>● Formative/Summative (F/S)</li> <li>● Independent/Group (I/G)</li> </ul>
2 wks	Functions <ul style="list-style-type: none"> <li>● We are learning to...               <ul style="list-style-type: none"> <li>○ use multiple representations of a linear function (F.IF.1-2)</li> <li>○ work together as a team as they consider the output of various composite relations (F.IF.1-2)</li> <li>○ collect and analyze data with tables and graphs (A-REI.10, F.IF.4, 7a)</li> <li>○ utilize contexts that result in proportional, inversely proportional, and exponential data (F.IF.7a, 7e)</li> <li>○ describe a parabola, using its intercepts, minima, maxima, vertex, symmetry, and whether it is positively or negatively oriented (A-REI.10, F-IF.4, 7a)</li> <li>○ write summary statements describing the graph of <math>y = \sqrt{x}</math> (A-REI.10, F-IF.4, F-IF.7b)</li> <li>○ generate a list of questions that will facilitate future relation investigations (A-REI.10, F-IF.4, F-IF.7b)</li> <li>○ graph and describe cube root and absolute value relations (A-REI.10, F-IF.7b)</li> <li>○ understand the input/output nature of functions (F.IF.1-2)</li> <li>○ understand the possible limitations for the domain and range (F.IF.1-2)</li> <li>○ Determine which relationships are functions and which are not, using both tables and graphs (F.IF.1-2, 5)</li> <li>○ Describe the domain and range of a function by examining an equation or graph (F.IF.1-2, 5)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● CPM Resource Pages</li> <li>● Envelopes</li> <li>● Square tiles</li> <li>● Non-rolling beans</li> <li>● Graph paper</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>
2 wks	Expressions <ul style="list-style-type: none"> <li>● We are learning to...               <ul style="list-style-type: none"> <li>○ Write linear algebraic equations relating the figure number of a geometric pattern and its number of tiles (F.IF.7a, F.LE.1a, 2, 5)</li> <li>○ Identify connections between the growth of a pattern, its starting value, and its linear equation (F.IF.7a, F.LE.1a, 2, 5)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● CPM Resource Pages</li> <li>● Poster paper</li> <li>● Graphing Calculator</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>

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	<ul style="list-style-type: none"> <li>○ Discover that slope is the change in <math>y</math> divided by the change in <math>x</math> between any two points on a line (F-IF.6, 7a, F-LE.1a, 2, 5)</li> <li>○ Connect growth and starting value to multiple representations of a linear function (F-IF.6, 7a, F-LE.1a, 2, 5)</li> <li>○ Use slope triangles both to compare the relative steepness of lines and to build intuition about positive, negative, and zero slopes (F-IF.4, 6, 7a, F-LE.1a, 5)</li> <li>○ Formalize <math>y=mx + b</math> form and will explore what information is needed to determine a line (A-SSE.1a, 1b, A-REI.10, F-IF.4, 6, 7a, F-BF.1a, F-LE.1a, 2, 5)</li> <li>○ Write equations of lines given various pieces of information (A-SSE.1a, 1b, A-REI.10, F-IF.4, 6, 7a, F-BF.1a, F-LE.1a, 2, 5)</li> <li>○ Develop an algorithm for finding slope through two points without graphing (A-SSE.1a, 1b, A-REI.10, F-IF.4, 6, 7a, F-BF.1a, F-LE.1a, 2, 5)</li> <li>○ Investigate the slope of vertical lines (A-SSE.1a, 1b, A-REI.10, F-IF.4, 6, 7a, F-BF.1a, F-LE.1a, 2, 5)</li> <li>○ Connect slope to rate (A-CED.2, F-IF.4, 7a, F-BF.1a, F-LE.1b, 2, 5)</li> <li>○ Understand speed as a rate (N-Q.1, 2, A-CED.2, F-IF.4, 6, 7, 9, F-LE.1, 2, 5)</li> <li>○ Employ multiple methods to find the <math>y</math>-intercept of a line given its slope and one point on it (N-Q.2, A-CED.2, F-IF.4, 6, 7, F-LE.1, 2, 5)</li> <li>○ Use knowledge of <math>y = mx + b</math> to find the equations of lines from two points on a table or graph (A-REI.10, F-IF.7a, F-BF.1a, F-LE.2)</li> </ul>			
2 wks	<p><b>Simplifying and Solving</b></p> <ul style="list-style-type: none"> <li>● We are learning to...             <ul style="list-style-type: none"> <li>○ Expand exponential expressions into repeated multiplication in order to simplify them (A-SSE.3c)</li> <li>○ Formalize the laws of exponents and use them to deduce the meaning of <math>x^0</math> and <math>x^{-1}</math> (A-SSE.3c)</li> <li>○ Become comfortable with physical representations of equations (A-REI.1, 3)</li> <li>○ Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Algebra tiles</li> <li>● CPM Resource Pages</li> <li>● White board markers</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>

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	<p>expression; add, subtract, multiply, and divide rational expressions. (A-APR.7)</p> <ul style="list-style-type: none"> <li>○ Identify and write the area of a composite rectangle as a sum and a product (A-SSE.3c)</li> <li>○ Multiply polynomial expressions with visual representation (A-SSE.3a)</li> <li>○ Use the distributive property with polynomial expressions (A-SSE.3a)</li> <li>○ Find missing pieces of area given dimensions (A-APR.1)</li> <li>○ Solve linear equations that involve multiplication and absolute value (A-REI.1, 3)</li> <li>○ Solve single and multi-variable equations (A-SSE.1a, A-APR.1, A-CED.4, A-REI.3, A-CED.4)</li> </ul>			
<p>2 wks</p>	<p><b>Systems of Equations</b></p> <ul style="list-style-type: none"> <li>● We are learning to... <ul style="list-style-type: none"> <li>○ Define variables and write equations to solve word problems</li> <li>○ Solve a simple system equation (N.Q.2, A-SSE.1b, A-CED.1, 3, A-REI.6, F-LE.1b)</li> <li>○ Solve a system of equations (N.Q.2, A-CED.1, 2, 3, A-REI.6)</li> <li>○ Use substitution to solve systems of linear equations and when to use appropriately (A-CED.3, A-REI.6)</li> <li>○ Examine how a solution to a system of equations relates to those equations as well as a graph (N.Q.2, A-CED.3, A-REI.5, 6, 10)</li> <li>○ understand that different approaches to setting up an elimination problem yield the same result and some are more efficient than others (A-CED.3, A-REI.5, 6)</li> <li>○ Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point) (G-GPE.5)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Index cards, tape or magnets</li> <li>● Algebra Tiles</li> <li>● White board markers</li> <li>● CPM Resource Pages</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>
<p>2 wks</p>	<p><b>Sequences</b></p> <ul style="list-style-type: none"> <li>● We are learning to... <ul style="list-style-type: none"> <li>○ Represent exponential growth with a diagram, table, and graph (N.Q.2, F-LE.1c)</li> <li>○ Write descriptions of exponential growth based on the patterns in their tables, recognize patterns, and use descriptions to make predictions (N.Q.2, F-LE.1c)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> </ul>	<ul style="list-style-type: none"> <li>● CPM Resource Pages</li> <li>● Blank paper and markers</li> <li>● Bouncy balls and meter sticks</li> <li>● Graphing calculator</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>

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	<ul style="list-style-type: none"> <li>○ Generate data and create data collection tables, equations and graphs (F-IF.7e, F-LE.1c)</li> <li>○ Identify an example of exponential decay (F-IF.7e, F-LE.1c)</li> <li>○ Identify sequences generated by adding a constant as <i>arithmetic</i>, and those generated by multiplying by a constant as a <i>geometric</i> (F-BF.2, F-LE.2)</li> <li>○ Use the correct vocabulary and notation for arithmetic sequences in the development of equations for the <math>n^{\text{th}}</math> term (F-IF.3, F-BF.2, F-LE.2)</li> <li>○ Write recursive equations for arithmetic sequences and convert between explicit and recursive equations (F-IF.3, F-BF.2, F-LE.2)</li> <li>○ Look at and compare patterns of growth in linear and exponential tables (F-IF.6, F-LE.1a, 3)</li> <li>○ Find equations for geometric sequences and identify relationships between geometric sequences and exponential function (F-IF.6, F-LE.1c, 2)</li> <li>○ Solve problems involving percent increase and decrease (F-IF.6, F-LE.1c, 2)</li> <li>○ Recognize that all sequences are functions with domains limited to non-negative integers (F-IF.3)</li> <li>○ Use graphical methods to solve exponential equations (F-IF.3)</li> </ul>	<ul style="list-style-type: none"> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Scissors</li> <li>● Graph paper</li> <li>● Colored pencils</li> <li>● CPM online textbook</li> </ul>	
<p>2 wks</p>	<p>Modeling Two-Variable Data</p> <ul style="list-style-type: none"> <li>● We are learning to...             <ul style="list-style-type: none"> <li>○ Make predictions based on linear models and interpret slope and y-intercept in context (N.Q.1, S-ID.6a,c, 7)</li> <li>○ Calculate, interpret, and graphically represent a residual (N.Q.1, S-ID.6a,c)</li> <li>○ Graphically determine an upper and lower bound for the predictions made from a linear best-fit model (N.Q.1, 3, S-ID.6a,c)</li> <li>○ Find the least squares regression line (LSRL) using a calculator (N.Q.1, 3, S-ID.6a,c)</li> <li>○ Determine if a linear model is a good fit for the data by creating and visually analyzing residual plots (N.Q.1, 3, S-ID.6a,b)</li> <li>○ Calculate the correlation coefficient and observe the scatter for various extremes of <math>r</math> (N.Q.1, 3, S-ID.6, 8)</li> <li>○ Understand that cause and effect cannot be determined from a study that reports an association (N.Q.1, S-ID.6a, 9)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Cardboard tubes</li> <li>● Tape measures</li> <li>● Meter sticks</li> <li>● CPM Resource Pages</li> <li>● Graphing Calculators</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>

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	<ul style="list-style-type: none"> <li>○ Interpret the correlation coefficient squared in context (N.Q.1, S-ID.6, 8)</li> <li>○ Fit a non-linear model to data that shows a curved trend (N.Q.1, S-ID.6a)</li> </ul>			
2-3 weeks	<p>Exponential Functions</p> <ul style="list-style-type: none"> <li>● We are learning to...                             <ul style="list-style-type: none"> <li>○ investigate the family of functions <math>y = b^x</math>; make and justify statements about the behaviors of graphs in this family.(F.IF.4,7e)</li> <li>○ deepen and extend their understanding of exponential functions by examining the multiplier (“<math>b</math>”) and starting point (“<math>a</math>”) in different representations; generalize the roles of <math>a</math> and <math>b</math> for the equation <math>y = a \cdot b^x</math>.(A-CED.1,2,F.IF.6,7e,8b,F.LE.1a,c,2,5)</li> <li>○ use what they know about linear and exponential functions to investigate the relationship between simple and compound interest.(A-SSE.1b,A-CED.1,2, F-IF.6,7b,7e,8b, F-LE.1a,1c,2,5)</li> <li>○ represent exponential decay in multiple ways and will further investigate the effect when the exponent is 0 or negative.(A-SSE.3c, A-CED.1,2, F-IF.7e,8b, F-LE.1c,2,5)</li> <li>○ use what they know about exponential growth to write equations for exponential functions presented as graphs.(A-CED.1,2, F-IF.4,5,7b,e,8b, F-LE.1c,2,5)</li> <li>○ complete the exponential multiple representations web, solidifying connections between the table, equation, graph, and situation representations of an exponential function.(N-Q.1,2, A-CED.1,2, F-IF.4,5,7e,8b,9, F-LE.1c,2,5)</li> <li>○ find equations of linear and exponential functions by using known quantities to solve for a missing parameter; interpret fractional exponents.(N-RN.1,2, F-IF.5,7e, F-BF.1a, F-LE.2)</li> <li>○ find linear functions and exponential equations of the form <math>y = ab^x</math> given two points.(A-REI.10, F-IF.7e, F-BF.1a, F-LE.2)</li> <li>○ write and graphically solve a system of exponential functions in the context of investigating used-car prices.(N-Q.2, F-IF.7e, F-BF.1a, F-LE.1c)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Pennies</li> <li>● Paper cups</li> <li>● Poster paper</li> <li>● Markers</li> <li>● CPM Resource Pages</li> <li>● Graphing Calculators</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>
3 weeks	<p>Quadratic Functions</p> <ul style="list-style-type: none"> <li>● We are learning to...</li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> </ul>	<ul style="list-style-type: none"> <li>● Algebra Tiles</li> <li>● Poster paper</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> </ul>

	<ul style="list-style-type: none"> <li>○ review how to build rectangles with tiles and learn shortcuts for finding the dimensions of a completed generic rectangle; discover that the products of the terms in each diagonal of a generic rectangle are equal.(A-SSE.3a)</li> <li>○ develop an algorithm to factor quadratic expressions without algebra tiles.(A-SSE.3a)</li> <li>○ practice their factoring skills while learning about special cases: quadratic expressions with missing terms, quadratics that are not in standard form, and quadratics with more than one possible factored form.(A-SSE.3a)</li> <li>○ focus on factoring by considering expressions that can be factored first with a common factor and then again using the quadratic factoring method.(A-SSE.2,3a)</li> <li>○ a quick way to factor perfect square trinomials and quadratics that are a difference of squares.(A-SSE.2,3a)</li> <li>○ identify connections between different representations of quadratics: an equation, a table, a situation, and a graph; connect the intercepts and vertex of a parabola to a situation.(N-Q.1, A-SSE.3a, A-CED.2, F-IF.4,5,7a,8a,9, F-BF.1a, F-LE.6)</li> <li>○ sketch the graph of a quadratic rule quickly, using its intercepts; find the x intercepts of a parabola by factoring the corresponding quadratic equation and applying the Zero Product Property.(A-SSE.3a, A-CED.2, A-REI.4b, F-IF.8a, F-BF.1a)</li> <li>○ use graphing calculators and the graphing form of a quadratic equation to find the x-intercepts and vertex of a parabola; use square roots to solve an equation.(A-SSE.3a, A-CED.2, A-REI.4b, F-IF.4,7a,8a, F-BF.1a)</li> <li>○ practice moving from a table, graph, or situation, to a quadratic rule..(A-SSE.3a, A-CED.2, F-IF.4,7a,8a,9, F-BF.1a)</li> <li>○ convert the equation of a parabola into graphing form by completing the square.(A-SSE.1b,3b, A-REI.4a, F-IF.7a,8a)</li> </ul>	<ul style="list-style-type: none"> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Markers</li> <li>● Colored pencils or pens</li> <li>● Paper Strips</li> <li>● Tape</li> <li>● CPM Resource pages</li> <li>● Graphing Calculators</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>
<p>3 weeks</p>	<p><b><u>Solving Quadratics and Inequalities</u></b></p> <ul style="list-style-type: none"> <li>● We are learning to...             <ul style="list-style-type: none"> <li>○ expand our skills using the Zero Product Property to solve quadratic equations; develop the method of completing the square to solve equations.(A-SSE.3b, A-REI.4a,b)</li> <li>○ how to use the Quadratic Formula to solve quadratic equations.(A-REI.4a,b)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> </ul>	<ul style="list-style-type: none"> <li>● Algebra Tiles</li> <li>● Poster paper</li> <li>● Marking pens</li> <li>● Poster graph paper</li> <li>● Sticky dots</li> <li>● Rulers or straight edges</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>

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	<ul style="list-style-type: none"> <li>○ solve quadratic equations, including some that are not in standard form, and some that have only one solution or no real solutions.(A-CED.1,2, A-REI.4a,b, F-IF.8a, F-LE.6)</li> <li>○ decide which method( the Zero Product Property, completing the square, or the Quadratic Formula) is best to try first for different types of equations.(A-CED.1,2, A-REI.4a,b, F-IF.8a, F-LE.6)</li> <li>○ solve linear inequalities with one variable and how to represent the solutions on a number line.(A-CED.1, A-REI.3)</li> <li>○ develop their ability to solve linear, one-variable inequalities by finding a boundary point and testing a value in the inequality; use an inequality to solve a word problem.(N-Q.2, A-CED.1, A-REI.3)</li> <li>○ graph linear inequalities with two variables.(A-CED.3, A-REI.10,12)</li> <li>○ graph linear and nonlinear inequalities that contain two variables; use the graph of a two-variable, linear inequality to solve a word problem.(N-Q.2, A-CED.3, A-REI.12)</li> <li>○ develop their ability to graph two-variable inequalities as they learn how to graph constraints using systems of inequalities.(A-CED.3, A-REI.12)</li> <li>○ graph systems of inequalities and will apply this understanding to solve problems.(N-Q.2, A-CED.3, A-REI.12)</li> <li>○ write inequalities from a word problem; use a system of inequalities to create a graph of a feasible region and then analyze different scenarios based on the feasible region.(N-Q.2, A-CED.3, A-REI.12)</li> <li>○ 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. (A-APR.3)</li> <li>○ Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. (A-REI.2)</li> <li>○ Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (“or,” “and,” “not”). (S-CP.1)</li> </ul>	<ul style="list-style-type: none"> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Markers</li> <li>● CPM Resource pages</li> <li>● Graphing Calculators</li> <li>● CPM online textbook</li> </ul>	
<p>3 weeks</p>	<p><b><u>Solving Complex Equations</u></b></p> <ul style="list-style-type: none"> <li>● We are learning to...</li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> </ul>	<ul style="list-style-type: none"> <li>● Graphing Calculators</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> </ul>

	<ul style="list-style-type: none"> <li>○ calculate probabilities and determine association from data arranged in two-way tables. Students will create relative frequency tables.(S-ID.5)</li> <li>○ solve complicated equations (ones with large numbers, fractions, or decimals) and simple exponential equations by rewriting and solving a simpler equivalent equation.(A-SSE.3c, A-REI.3)</li> <li>○ solve complicated linear and quadratic equations that involve fractions by rewriting and solving an equivalent equation.(A-REI.1,3)</li> <li>○ use multiple methods for solving single-variable equations involving exponents and square roots.(A-SSE.1b, A-REI.1)</li> <li>○ determine the number of solutions to an absolute value equation or a quadratic written in perfect square form; express their solutions in exact and approximate forms.(A-REI.4b)</li> <li>○ derive the Quadratic Formula by completing the square; recognize that imaginary numbers are potential solutions to quadratic equations.(N-RN.3, A-REI.4a,b)</li> <li>○ solve various equations using the methods from Lesson 10.2.3 and be confident in how to select the best method; recognize quadratic inequalities through a context.(A-SSE.1b, A-REI.1,3,3.1,4b, F-LE.6)</li> <li>○ distinguish between intercepts and intersections and to solve systems of equations when one or both equations is/are not linear; use intersections of functions to find solutions to the related single-variable equations.(A-REI.7,11)</li> <li>○ strengthen their quadratic-solving skills while investigating the possible ways two parabolas or a line and a parabola can intersect; that using an algebraic method to find points of intersection is more reliable than graphing the system.(A-REI.7,11)</li> <li>○ Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results. (S-CP.4)</li> </ul>	<ul style="list-style-type: none"> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Poster paper</li> <li>● Markers</li> <li>● CPM Resource pages</li> <li>● Index Cards</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Review Activity(G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>
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Oak Grove Curriculum Scope & Sequence

TAG Algebra 1 (Grade 8)

Updated 11.4.15

	<ul style="list-style-type: none"> <li>○ solve complicated single-variable inequalities, including those with absolute values and those with squared terms.(A-REI.3,3.1)</li> </ul>			
3 weeks	<p><b>Functions and Data</b></p> <ul style="list-style-type: none"> <li>● We are learning to...           <ul style="list-style-type: none"> <li>○ transform linear, quadratic, and exponential functions by adding a constant or multiplying by a constant.(F-IF.1,7a, F-BF.1b,3)</li> <li>○ “undo” functions to find the inverse function.(F-BF.4a)</li> <li>○ interpret the differences between graphical representations of single-variable data.(S-ID.1,3)</li> <li>○ compare the center, shape, spread, and outliers of two collections of numerical data.(S-ID.1,2,3)</li> <li>○ find and interpret standard deviation.(S-ID.1,2,3)</li> <li>○ collect and analyze data; find the equation of a least squares regression line, describe the association, verify the residual plot, create upper and lower boundary lines, and use the statistics to make a prediction.(S.ID.6a,b,c,7,8)</li> <li>○ apply our knowledge of relations, including domain, range, functions, intercepts, and symmetry.(F-IF.5)</li> <li>○ connect our understanding of functions, inequalities, and solving equations to analyze a complicated inequality.(F-IF.5)</li> <li>○ use multiple representations to maximize a set of quadratic data; interpret algebraic and graphical results.(N-Q.2,3, A-SSE.3a, A-CED.1,3, F-IF.4)</li> <li>○ write and solve exponential functions; solve a linear programming problem.(N-Q.2,3, A-CED.1,3, F-IF.4,7e,8b, F-LE.1a,c,2,5)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Direct Instruction</li> <li>● Teacher Modeling</li> <li>● Whole Class Discussion</li> <li>● Think-Pair-Share</li> <li>● Teammates consult</li> <li>● Pairs Check</li> <li>● Gallery Walk</li> </ul>	<ul style="list-style-type: none"> <li>● Graphing Calculators</li> <li>● Poster paper</li> <li>● Sticky notes</li> <li>● pushpins</li> <li>● thick cardboard</li> <li>● rulers</li> <li>● String</li> <li>● Pennies</li> <li>● Tape</li> <li>● Measuring tapes</li> <li>● markers</li> <li>● CPM Resource pages</li> <li>● CPM online textbook</li> </ul>	<ul style="list-style-type: none"> <li>● Homework (I-F)</li> <li>● Quiz(es) (I-F)</li> <li>● Review Activity (G-F)</li> <li>● Teacher Made Assessment (I-S)</li> </ul>