

Course Code	1200310
Course Category	6-12
Subject Area	Mathematics
Course Type	Level 2
Course Title	Algebra 1
Course Level	2
Course Length	Full year
Credit Description	1
Abbreviated Title	Algebra 1

RELATED BENCHMARKS (40) :

Scheme	Descriptor
LA.910.1.6.1	The student will use new vocabulary that is introduced and taught directly;
LA.910.1.6.2	The student will listen to, read, and discuss familiar and conceptually challenging text;
LA.910.1.6.5	The student will relate new vocabulary to familiar words;
LA.910.3.1.3	The student will prewrite by using organizational strategies and tools (e.g., technology, spreadsheet, outline, chart, table, graph, Venn Diagram, web, story map, plot pyramid) to develop a personal organizational style.
MA.912.A.1.8	Use the zero product property of real numbers in a variety of contexts to identify solutions to equations.
MA.912.A.2.3	Describe the concept of a function, use function notation, determine whether a given relation is a function, and link equations to functions.
MA.912.A.2.4	Determine the domain and range of a relation.
MA.912.A.2.13	Solve real-world problems involving relations and functions.
MA.912.A.3.1	Solve linear equations in one variable that include simplifying algebraic expressions.
MA.912.A.3.2	Identify and apply the distributive, associative, and commutative properties of real numbers and the properties of equality.
MA.912.A.3.3	Solve literal equations for a specified variable.
MA.912.A.3.4	Solve and graph simple and compound inequalities in one variable and be able to justify each step in a solution.
MA.912.A.3.5	Symbolically represent and solve multi-step and real-world applications that involve linear equations and inequalities.
MA.912.A.3.7	Rewrite equations of a line into slope-intercept form and standard form.
MA.912.A.3.8	Graph a line given any of the following information: a table of values, the x- and y-intercepts, two points, the slope and a point, the equation of the line in slope-intercept form, standard form, or point-slope form.
MA.912.A.3.9	Determine the slope, x-intercept, and y-intercept of a line given its graph, its equation, or two points on the line.
MA.912.A.3.10	Write an equation of a line given any of the following information: two points on the line, its slope and one point on the line, or its graph. Also, find an equation of a new line parallel

to a given line, or perpendicular to a given line, through a given point on the new line.

- MA.912.A.3.11 Write an equation of a line that models a data set and use the equation or the graph to make predictions. Describe the slope of the line in terms of the data, recognizing that the slope is the rate of change.
- MA.912.A.3.12 Graph a linear equation or inequality in two variables with and without graphing technology. Write an equation or inequality represented by a given graph.
- MA.912.A.3.13 Use a graph to approximate the solution of a system of linear equations or inequalities in two variables with and without technology.
- MA.912.A.3.14 Solve systems of linear equations and inequalities in two and three variables using graphical, substitution, and elimination methods.
- MA.912.A.3.15 Solve real-world problems involving systems of linear equations and inequalities in two and three variables.
- MA.912.A.4.1 Simplify monomials and monomial expressions using the laws of integral exponents.
- MA.912.A.4.2 Add, subtract, and multiply polynomials.
- MA.912.A.4.3 Factor polynomial expressions.
- MA.912.A.4.4 Divide polynomials by monomials and polynomials with various techniques, including synthetic division.
- MA.912.A.5.1 Simplify algebraic ratios.
- MA.912.A.5.4 Solve algebraic proportions.
- MA.912.A.6.1 Simplify radical expressions
- MA.912.A.6.2 Add, subtract, multiply and divide radical expressions (square roots and higher).
- MA.912.A.7.1 Graph quadratic equations with and without graphing technology.
- MA.912.A.7.2 Solve quadratic equations over the real numbers by factoring, and by using the quadratic formula.
- MA.912.A.7.8 Use quadratic equations to solve real-world problems.
- MA.912.A.7.10 Use graphing technology to find approximate solutions of quadratic equations.
- MA.912.A.10.1 Use a variety of problem-solving strategies, such as drawing a diagram, making a chart, guess- and-check, solving a simpler problem, writing an equation, working backwards, and create a table.
- MA.912.A.10.2 Decide whether a solution is reasonable in the context of the original situation.
- MA.912.A.10.3 Decide whether a given statement is always, sometimes, or never true (statements involving linear or quadratic expressions, equations, or inequalities rational or radical expressions or logarithmic or exponential functions).
- MA.912.D.7.1 Perform set operations such as union and intersection, complement, and cross product.
- MA.912.D.7.2 Use Venn diagrams to explore relationships and patterns, and to make arguments about relationships between sets.
- MA.912.G.1.4 Use coordinate geometry to find slopes, parallel lines, perpendicular lines, and equations of lines.