Curriculum Analysis
Algebra I

What new content moved into the grade 8 curriculum?	*What student expectations in Algebra I may be affected by the change in curriculum?*
• Generalize that the ratio of corresponding sides of similar shapes are proportional, including a shape and its dilation. 8(3)(A) • Use similar right triangles to develop an understanding that slope, given as the rate comparing the change in *y*-values to the change in *x*-values $\left(\dfrac{y_2 - y_1}{x_2 - x_1}\right)$. 8(4)(A) • Interpret unit rate as the slope of the line that models a proportional relationship. 8(4)(B) • Use data from a table or graph to determine rate of change or slope and *y*-intercept in context. 8(4)(C) • Contrast bivariate sets of data that suggest a linear relationship with those that do not suggest a linear relationship from a graphical representation. 8(5)(C) • Identify functions using sets of ordered pairs, tables, mappings, and graphs. 8(5)(G)	• Determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities. A(2)(A) • Write linear equations in various forms given a point and the slope and two points, from a table of values, a graph, and a verbal description. A(2)(B), A(2)(C) • **Write the equation of a line that contains a given point and is parallel or perpendicular to a given line. A(2)(E), A(2)(F)** • **Write an equation of a line that is parallel or perpendicular to the X or Y axis, and determine whether the slope of the line is zero or undefined. A(2)(G)** • Determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms. A(3)(A) • Calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems. A(3)(B) • Decide whether relations represented verbally, tabularly, graphically, and symbolically define a function. A(12)(A)
• Write one-variable inequalities and write and solve (with and without models) one-variable equations with variables on both sides using rational number coefficients and constants. 8(8)(A), 8(8)(C) • Write a real-world problem given an equation or inequality with variables on both sides using rational number coefficients and constants. 8(8)(B)	• Solve linear equations and inequalities, including those for which the application of the distributive property is needed and variables are included on both sides. A(5)(A), A(5)(B)
• Identify and verify the values of x and y that simultaneously satisfy two linear equations in the form *y* = m*x* + b from the intersections of the graphed equations. 8(9)(A)	• Solve systems of two linear equations with two variables for mathematical and real-world problems. A(5)(C) • Graph systems of two linear equations in two variables on the coordinate plane and determine the solutions, if they exist. A(3)(F) • Estimate graphically the solutions to systems of two linear equations with two variables in real-world problems. A(3)(G)