Mathematics
Algebra 1: Part 1
Unit 3: Solving Linear Functions

Essential Understandings	▪ Solving linear functions is one of the major skills necessary to be successful in Algebra 1.
Essential Questions	▪ What is a solution of an equation? ▪ How do you solve algebraic equations? ▪ How do you solve and use formulas? ▪ How do you use ratios and rates to solve real life problems? ▪ How do you solve percentage problems?
Essential Knowledge	▪ Solutions of equations are what make equations true. ▪ Ratios can be written in different ways. ▪ Ratios and rates can be used to solve real life problems. ▪ The definition of percentage is parts per hundred.
Vocabulary	▪ Terms: o equation, linear equations, formulas, ratios, rates, percent, percent equations.
Essential Skills	▪ Identify solutions off equations. ▪ Solve algebraic equations. ▪ Solve and use formulas. ▪ Use ratios and rates to solve real life problems. ▪ Solve percentage problems.

Related Maine Learning Results	Mathematics
	D. Algebra
	  Equations and Inequalities
	  D2. Students solve families of equations and inequalities.
	    a. Solve systems of linear equations and inequalities in two unknowns and interpret their graphs.
	    b. Solve quadratic equations graphically, by factoring in cases where factoring is efficient, and by applying the quadratic formula.
	    c. Solve simple rational equations.
	    d. Solve absolute value equations and inequalities and interpret the results.
	    e. Apply the understanding that the solution(s) to equations of the form $f(x) = g(x)$ are x-value(s) of the point(s) of intersection of the graphs of $f(x)$ and $g(x)$ and common outputs in table of values.
	    f. Explain why the coordinates of the point of intersection of the lines represented by a system of equations is its solution and apply this understanding to solving problems.
	  D3. Students understand and apply ideas of logarithms.
	    a. Use and interpret logarithmic scales.
	    b. Solve equations in the form of $x + b^{y}$ using the equivalent form $y = \log_{b} x.$

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Sample Lessons And Activities	▪ Students will orally respond to questions. ▪ Students will utilize worksheets and in their notes to demonstrate individual understanding of the concepts.
Sample Classroom Assessment Methods	▪ Evaluate homework ▪ Quizzes ▪ Chapter test
Sample Resources	▪ <u>Publications:</u> o <u>Algebra 1</u> – McDougall Littell