Unit 6
Standards Review

Grade 8 Math

Unit Description:

Students will build fluency and continue to apply essential standards toward applications of concepts such as solving equations and solving systems of equations.

Standards for Mathematical Practice

MP.1 Make sense of problems and persevere in solving them.
MP.2 Reason abstractly and quantitatively.
MP.3 Construct viable arguments and critique the reasoning of others.
MP.4 Model with mathematics.
MP.5 Use appropriate tools strategically.
MP.6 Attend to precision.
MP.7 Look for and make use of structure.

Louisiana Student Standards for Mathematics (LSSM)

EE – Expressions and Equations	
C. Analyze and solve linear equations and pairs of simultaneous linear equations.	
8.EE.C.7	Solve linear equations in one variable. **a.** Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). **b.** Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. *I can give examples of linear equations in one variable with one solution and show that the given example equation has one solution by successively transforming the equation into an equivalent equation of the form $x = a$. *I can give examples of linear equations in one variable with infinitely many solutions and show that the given example has infinitely many solutions by successively transforming the equation into an equivalent equation of the form $a = a$. *I can give examples of linear equations in one variable with no solution and show that the given example has no solution by successively transforming the equation into an equivalent equation of the form $b = a$, where a and b are different numbers.

	*I can solve linear equations with rational number coefficients. *I can solve equations whose solutions require expanding expressions using the distributive property and/or collecting like terms.
8.EE.C.8	Analyze and solve pairs of simultaneous linear equations. **a.** Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. **b.** Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6. **c.** Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. *I can identify the solution(s) to a system of two linear equations in two variables as the point(s) of intersection of their graphs. *I can describe the point(s) of intersection between two lines as the points that satisfy both equations simultaneously. *I can define "inspection". *I can solve a system of two equations (linear) in two unknowns algebraically. *I can identify cases in which a system of two equations in two unknowns has no solution. *I can identify cases in which a system of two equations in two unknowns has an infinite number of solutions. *I can solve simple cases of systems of two linear equations in two variables by inspection.

Enduring Understandings:	Essential Questions:
*Linear equations in one variable can have one solution, infinitely many solutions, or no solutions. *The points (x, y) on a non-vertical line are the solutions of the equation $y = mx + b$. *When two linear equations are graphed on the same coordinate grid, the lines may intersect at a point, intersect at all points, or never intersect.	*How do we understand and represent linear relationships and various nonlinear relationships? *What is the meaning of slope? *What does the point of intersection of two simultaneous equations represent?