Mathematics 9
Unit 6: Linear Equations and Inequalities

Text: Math Makes Sense 9   **Chapter 6**

By the end of this unit, it is expected that students will:

Outcomes	Pages
1. Model and solve problems using linear equations of the form: • $ax = b$ • $\dfrac{x}{a} = b, a \neq 0$ • $ax + b = c$ • $ax = b + cx$ • $a(x + b) = c$ • $\dfrac{x}{a} + b = c,\quad a \neq 0$ • $\dfrac{a}{x} = b, x \neq 0$ • $ax + b = cx + d$ • $a(bx + c) = d(ex + f)$ **Where a, b, c, d, e and f are rational numbers.** < Model the solution of a linear equation using concrete or pictorial representation and record the process. < Determine, by substitution, whether a given rational number is a solution to a linear equation. < Solve a linear equation symbolically. < Identify and correct an error in an incorrect solution of a linear equation. < Represent a problem using a linear equation. < Solve a problem using a linear equation and record the process.	< Lesson 6.1 Pages 266 - 274 < Lesson 6.2 Pages 275 - 283
2. Explain and illustrate strategies to solve single variable linear inequalities with rational coefficients within a problem-solving context. < Translate a problem into a single variable linear inequality using <,>, ≤ ,or ≥ < Determine if a given rational number is a possible solution of a given linear inequality. < Graph the solution of a given linear inequality on a number line. < Generalize and apply a rule for adding and subtracting a positive or negative number to determine the solution of a given inequality. < Generalize and apply a rule for multiplying and dividing a positive or negative number to determine the solution of a given inequality. < Solve a given linear inequality algebraically and explain the process orally or in written form. < Compare and explain the process for solving a linear equation to the process for solving a linear inequality. < Compare and explain the solution of a linear equation to the solution of a linear inequality. < Verify the solution of a linear inequality using substitution for multiple elements in the solution. < Solve and graph the solution involving a single variable linear inequality	< Lesson 6.3 Pages 288 – 293 < Lesson 6.4 Pages 294 – 299 < Lesson 6.5 Pages 300 – 306
Review Exercises: < Mid-Unit Review < Unit Review < Practice Test	Pg: 286 P: 307-309 Pg 310