Algebra 1
Unit 2, lesson 1 Notes
Solving 1, 2, and Multi-Step Linear Equations

Essential Question: How do I solve 1, 2, and multi-step linear equations?

New Vocabulary:

Expression: Equation:

Linear Equation: Solution:

To solve an equation – the goal is to get the _____ by itself on one side of the equal sign.

One-Step Equations (you only need to perform one operation to solve the equation)

I. Solve using addition or subtraction. Check your answers!

1) x + 10 = 33 2) 20 = x – 15 3) x + 12 = -6

II. Solve using multiplication or division. Check your answers!

1) 4x = 20 2) $\frac{x}{15} = 3$ 3) 120 = 15x

III. Solve by using a reciprocal. Check your answers!

1) $\frac{3}{4}x = 9$ 2) $\frac{3}{5}x = 6$ 3) $12 = \frac{1}{2}x$

Two-Step Equations (These require two steps in order to solve the equation)

Example: $\frac{x}{2} + 5 = 11$

Now try these. Check your answers!

1) $5x + 9 = 24$

2) $-1 = \frac{z}{3} - 7$

3) $10x - 2x = 32$

4) $-16 = 5d - 9d$

Multi-Step Equations (Equations that require more than two steps to solve)

Example: $7x + 2(x + 6) = 39$

Now try these. Check your answers!

1) $8x - 3x - 10 = 20$

2) $\frac{3}{2}(3x + 5) = -24$