Algebra/Geometry Institute Summer 2003

Lesson Plan 3

Faculty Name: Stanley S. House
School: East Side High School
City: Cleveland, MS
Grade Level: 9-10 (Transition to Algebra)

1 *MS Framework Competency:*

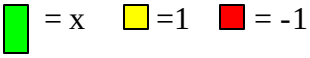
- 4a-Solve and check multi-step equations and inequalities, including distributive property, variables on both sides, and rational coefficients.

2 Teaching Objective(s)

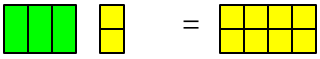
- The students will be able to model and solve linear two step equations using algebra tiles.
- The students will be able to transfer the skills learned from modeling the equations to the algorithm used to solve the equation.

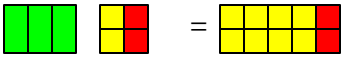
3 Instructional Activities

- **Warm-up exercises:** Give several problems for students to solve that involves solving linear one step equations. (e.g.) h + 24 = 63, -5n = 20, 2a = 16, and s – 3 = 10
- The teacher will review inverse operations. (e.g.) The inverse operation of addition is subtraction.
- The teacher will review the order of operations involved when using inverse operations. Addition and/or subtraction are completed first, and then multiplication and/or division are completed next..
- The teacher will demonstrate the value of algebra tiles using a set of overhead algebra tiles.

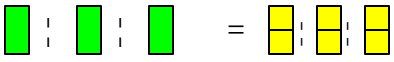
  (e.g.)  = x =1 = -1

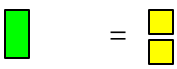
- The teacher will model several two step linear equations using the algebra tiles. For example:

  3x + 2 = 8 

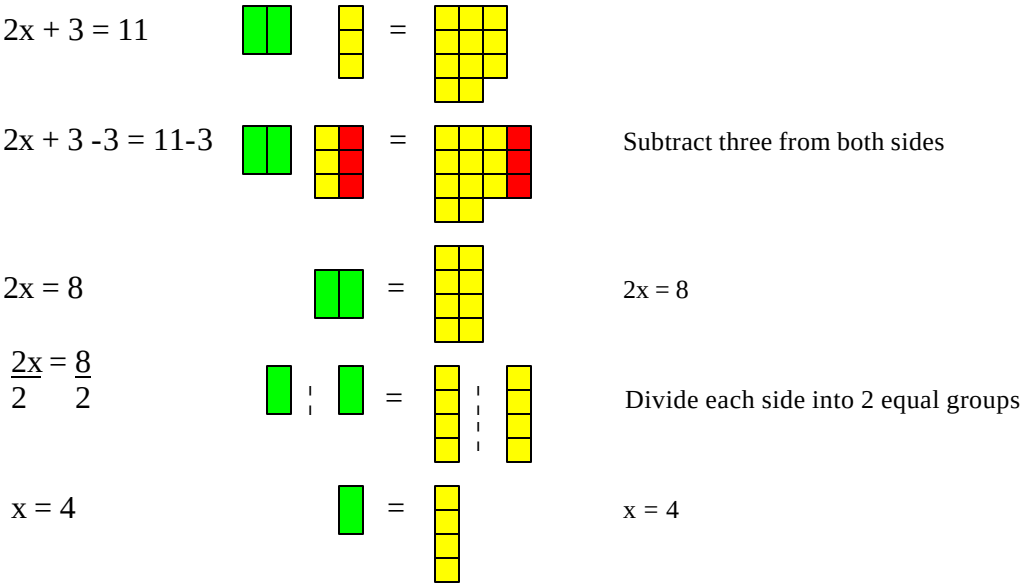
  3x + 2 - 2 = 8 - 2  Subtract two from both sides

  3x = 6  3x = 6

  $\frac{3x}{3} = \frac{6}{3}$  Divide each side into 3 equal groups

  x = 2  x = 2

- The students will break out into five groups to model and solve at least five different two step linear equations. Example 2x + 3 = 11



- **Homework:** Give students a handout that has at least five two step linear equations to be solved using a drawing representation of the algebra tiles and also show the algorithm for solving the equations.

4 Materials and Resources

- McDougal Littell / Houghton Mifflin, *Mathematical Connections* 1997
- Algebra tiles (5) sets
- Overhead tile set
- Overhead
- Transparency

5 Assessment

- Teacher observation of activities
- Grading of homework activity
- Journal entry