

Name: _____

Comparing Equations with **ONE solution, NO solution, or INFINITE solutions** Activity

For this activity you will need:

*this paper

*your partner

*a pencil

*5 different colored crayons or colored pencils (choose light colors)

*a calculator

Directions (check off the box for each step as you go):

- 1) Draw a vertical line through the equals sign in each equation to separate the left and right sides.
- 2) Use one of your colors to put a box around each **VARIABLE** term in every equation. Be sure to include the entire coefficient for that term! Don't leave out negatives!
- 3) Use your second color to put a box around each **CONSTANT** term in every equation. Don't leave out negatives!
- 4) Use your third color to write "1" next to the equations that will have **ONE** solution. Solve those equations.
- 5) Use your fourth color to write "NONE" next to the equations that will have **NO** solution. Then explain how you know it will have no solution.
- 6) Use your fifth color to write "INFINITE" next to the equations that will have **ALL NUMBERS** as solutions. Then explain how you know it will have infinite solutions.
- 7) Answer this question: How can you tell by **LOOKING** at an equation whether you will have **one, none, or infinite** solutions?

- 8) Answer this question: Explain what you would have to do with the equation $2(6x - 6) = 4(3x - 2)$ to be able to tell how many solutions it will have?

$$7x - 6 = 7x - 5$$

$$2x + 6 = x + 10$$

$$2x + 1 = 2x + 1$$

$$9x - 1 = 5x + 7$$

$$9 - 5x = 9 - 5x$$

$$5x + 3 = 5x - 13$$

$$4 - 3x = 7 - 3x$$

$$4x + 8 = 3x + 20$$

$$7x + 12 = -3x + 52$$

$$13x + 100 = 13x + 100$$