Name:

Date:

School:

Facilitator:

**2.01 Solving Systems of Equations**

Answer the following:

1. Give an example of a system with no solutions.

2. Explain how you would know that the following system has an infinite number of solutions, without solving it.

 *y* = 2*x* + 5

 -4*x* + 2*y* = 10

Solve the following systems of equations by graphing. Give your answer as an ordered pair, or state that there are Infinite Solutions or No Solution to the system.

3. *y* = 2*x* – 5

 -2*x* + *y* = 3

4. $y = 2x – 5$

 $y= - \frac{1}{3}x+2$

5. 3*x* + *y* = -5

 -3*x* – *y* = 5

Solve the following systems of equations by elimination or substitution. Give your answer as an ordered pair, or state that there are Infinite Solutions or No Solution to the system.

6. 3*x* + *y* = 7

 - 4*x* + *y* = -14

7. 3*x* - 5*y* = 1

 - 6*x* + 7*y* = -2

8. *y* - 3 = -5x

 10*x* + 2*y* = 6

9. 2*x* = -7*y* + 4

 3*x* + 5*y* = -5

10. 3*x* = 2*y* + 9

 9*x* - 6*y* = 20

11. *x* - 2*y* = -4

 -3*x* + *y* = -13

12. Suppose you have the following system of equations, where *a* and *b* are real number constants:

 3*x* - 2*y* = -1

 *ax* + *by* = -2

Answer the following:

 (A) What values of *a* and *b*, if any, would yield a system with no solutions?

 (B) What values of *a* and *b*, if any, would yield a system with infinite solutions?