**Solutions to Systems of Equations**

1. Solve this system of equations using each method below.

2*x* + *y* = 5

2*y* = 10 – 4*x*

1. With a graphing calculator:
2. Using the substitution method:
3. Use your result from question 1a to explain why you obtained the result in question 1b.

1. Solve this system of linear equations using each method given.

*y* – 8 =2(*x* – 6)

*y* = 2*x* + 7

1. With a graphing calculator:
2. Using the substitution method:
3. Use your result from question 2a to explain why you obtained the result in question 2b.
4. Explain how you can tell from a graph whether a system of equations has one solution, many solutions, or no solution.
5. Which system of equations in questions 1 or 2 is inconsistent? Which system is dependent? Explain.
6. Suppose you obtain the following results in solving three different systems of linear equations using the substitution method. How many solutions does each system have?

a. 5 = 5 b. –6 = 4 c. *y* = 8

1. Create a system of linear equations that has no solution.

1. Create a system of linear equations that has an infinite number of solutions.