Name:_____ Date:_____ Grade:_____

Solving Systems of Linear Equations
Study Guide

Identify the number of solutions and graph the solution. SHOW YOUR WORK!!!

1. $6x - 2y = 10$
   $-3x + y = 6$

2. $-x + y = 4$
   $2x + y = -11$

3. $5x - 3y = 6$
   $-10x + 6y = -12$

Use the substitution method to solve each system of linear equations. SHOW YOUR WORK!!!!

4. $4x + y = 0$
   $x + 2y = -7$

5. $x + 14y = 84$
   $2x - 7y = -7$

6. $y = 4x$
   $x + y = 5$

Use the elimination method to solve each system of linear equations. SHOW YOUR WORK!!!

7. $-6x + 3y = -6$
   $2x + 6y = 30$

8. $3x + 5y = -16$
   $-2x + 6y = -36$

9. $x - 3y = -4$
   $2x + 6y = 5$

Fill in the blank.

10. Intersecting lines have exactly _____ solutions.

11. If the lines are the same, there will be _____ solutions.

12. If the lines have the same slope, there will be_____ solutions.

Tell whether the ordered pair is a solution of the linear system.

13. (3, 5)
$-15x + 7y = 1$
$3x - y = 1$

14. (- 4, - 1)
$-5x + y = 19$
$x - 7y = 3$

15. (6, 1)
$-2x + y = 11$
$-x - 9y = -15$

Write a linear equation for each situation and answer the given question. **Show all work!!!!**

16. The sum of two numbers is 24. The second number is 6 less than the first. What are the two numbers?

17. Kerry and Luke biked a total of 18 miles in one weekend. Kerry biked 4 miles more than Luke. What far did each boy bike?