Advanced Algebra
Homework #3
Systems of Equations

Name _____

Period _____

SHOW ALL WORK.

Complete Parts A & B, OR Parts B & C

PART A:

Solve the system of equations

1. $3x + 2y = 10$
$5x - 2y = 6$

2. $2x - 3y = -1$
$-2x + 3y = -19$

3. $3x + 2y = 4$
$6x - 3y = -27$

PART B:

Solve the system of equations

4. $6x - 2y = 5$
$-3x + y = 7$

5. $6x - 3y = 15$
$y = 2x - 5$

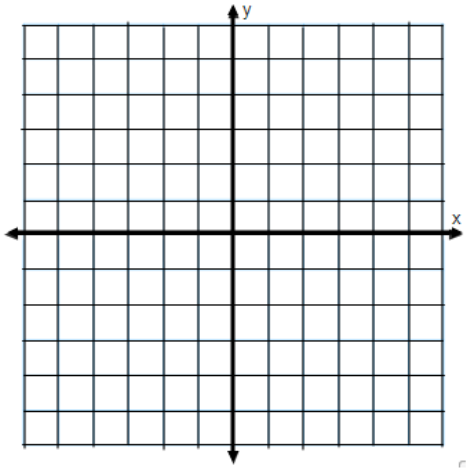
6. $3x - y = 2$
$6x + 3y = 14$

7. $3x + 7y = -1$
$2x + 3y = 6$

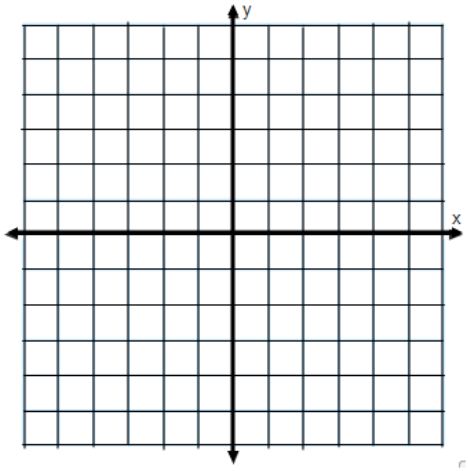
8. $4x - 3y = 8$
$-8x + 6y = 16$

Graph the linear system and estimate the solution. Then check the solution algebraically.

9. $y = -3x + 2$
$y = 2x - 3$



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



For problems #11-13, do the following:

a) Define the variables

b) Write the system of equations

c) Solve for all variables/Answer the question

11. A total of 600 tickets were sold for a concert. Twice as many tickets were sold in advance that were sold at the door. If the tickets sold in advance cost $25 each and the tickets sold at the door cost $32 each, how much money was collected for the concert?

a) b) c)

12. Chase and Sara went to the candy store. Chases bought 5 pieces of fudge and 3 pieces of bubble gum for a total of $5.70. Sara bought 2 pieces of fudge and 10 pieces of bubble gum for a total of $3.60. How much does 1 piece of fudge (f) and 1 piece of bubble gum(g) cost?

a) b) c)

13. At McDonalds four cheeseburgers and three medium fries have a total of 2290 calories. Six cheeseburgers and two medium fries have 2560 calories. How many calories does each item contain?

a) b) c)

PART C:

Solve the system of equations

14. $5x - 3y = -3$
$2x + 6y = 0$

15. Find the values of r, s, and t that produce the indicated solution(s).

$-3x - 5y = 9$
$rx + sy = t$

a) No solution **b)** Infinitely many solutions **c)** A solution of (2, -3)