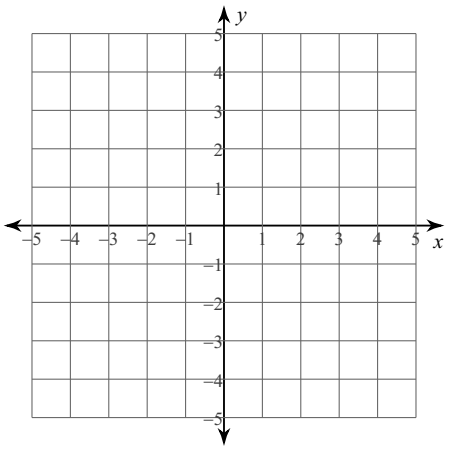
Unit 8 Corrective Assignment

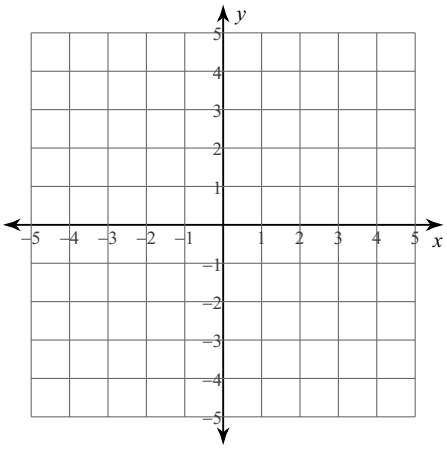
Name_____

Solve each system by graphing and sketch the graph.

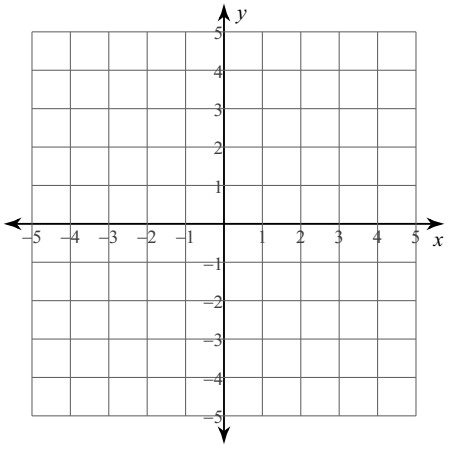
1) $y = 2x - 3$
$y = -x + 3$



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



3) $x - y = -2$
$x - y = 3$



Solve each system by substitution.

4) $-2x + 3y = 14$
$y = -5x + 16$

5) $y = 3x - 21$
$-3x + 10y = 33$

6) $4x + y = -22$
$-2x - 2y = 2$

Solve each system by elimination.

7) $3x - y = -1$
$-3x + 3y = 3$

8) $x - 4y = -6$
$-x + y = 3$

9) $6x + 2y = 16$
$-8x - 7y = -4$

Solve each system by graphing, substitution, or elimination. If appropriate, write "no solution" or "infinitely many solutions."

10) $11x - 3y = -16$
$3x + y = 12$

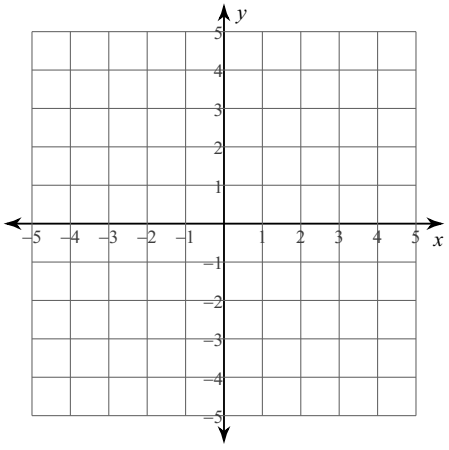
11) $2x - 4y = 4$
$x - 2y = 12$

12) $3x - 12y = -27$
$x - 4y = -9$

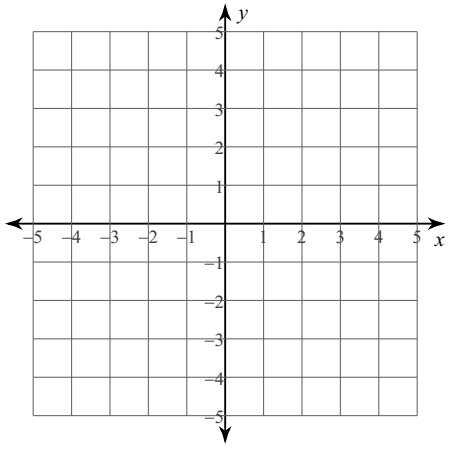
13) $7x + 12y = -17$
$x + 4y = 9$

Sketch the solution to each system of inequalities.

14) $y \geq -x + 3$
$y > 3x - 1$



15) $4x - y \geq 3$
$y > 1$



16) Is the point (1, 3) a solution of the system of inequalities in number 15?

CA Application and Extension

Use a system of linear inequalities to solve each problem.

1. Sully has a sandwich bag full of nickels and quarters so he can buy his lunch. He has a total of 29 coins worth $3.65. How many quarters and how many dimes does Mr. Brust have?

   a. Complete the following: (2 pts each equation)

   _____ + _____ = 29 (Representing the number of coins)

   0.05 _____ + 0.25_____ = $3.65 (Representing the value of the coins)

   b. Now solve your system to answer the question! (+3 pts)

2. The math club had a fundraiser to buy supplies for a hospice. The club spent $246 buying 12 cases of juice and two cases of bottled water. After deciding they need to purchase some more, they spend $204 on eight more cases of juice and four more cases of bottled water. Find the cost of a case of juice and a case of water by solving a linear system. (+5)

3. A furniture manufacturer produces tables and footstools. Each table requires 10 boards and takes 8 hours to make. Each footstool requires six boards and takes 16 hours to build. The furniture manufacturer has 144 boards in stock and 160 hours available for work.

   a. Explain each inequality in the context of this problem. (+2 Each)

   x = # of tables y = # of foot stools

   $10x + 6y \leq 144$ _____

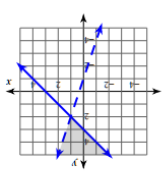
   $8x + 16y \leq 160$ _____

   $X \geq 0$ _____

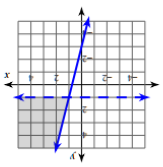
   $y \geq 0$ _____

Answers to Corrective Assignment

1) (2, 1) 2) (3, −3) 3) No solution 4) (2, 6)
5) (9, 6) 6) (−7, 6) 7) (0, 1) 8) (−2, 1)
9) (4, −4) 10) (1, 9) 11) No solution
12) Infinite number of solutions 13) (−11, 5) 14)



15)



16) No Way!

1. $N + Q = 29$
   $0.05N + 0.25Q = 3.65$
   $N = 18, Q = 11$

2. $246 = 12J + 2W$
   $204 = 8J + 4W$
   $J = \$18$
   $W = \$15$

3. Represents the number of boards in stock
   Represents the number of hours available to build
   # Tables must be positive
   # stools must be positive