Algebra 1 – Unit 3

Name: _____ Date:_____ Period: _____

Unit CA

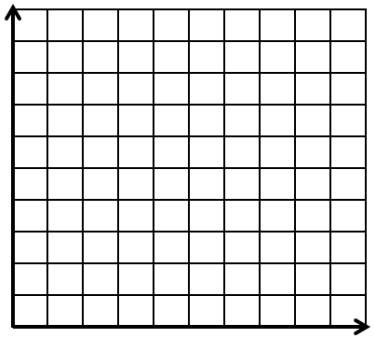
Unit 3 Corrective Assignment – Systems of Equations

1. Your family has \$56 to spend on the local school musical. Tickets at the door cost \$4 for students and 8\$ for non-students.
   a. Identify the variables to be used and what they represent.

   b. Create an equation using those two variables to model the scenario.

   c. List at least two solutions to the equation from part (b).

   d. Graph the solutions with a line and label the axes



Circle all the ordered pairs (x, y) that are solutions to the given equation OR inequality. BE CAREFUL!

2. $x + 8y = 15$

   $(-10, 4)$ $(-9, 3)$ $(0,2)$ $(-1, 2)$ $(6, 1)$

3. $9x - y = -2$

   $(0, 2)$ $(1, 11)$ $(2, 20)$ $(3, 29)$ $(-3, -25)$

4. $x + y > 0$

   $(0, 0)$ $(-3, 1)$ $(4, -3)$ $(-1, -4)$ $(1, 1)$

5. $2x - 5y \leq 3$

   $(4, 1)$ $(2, 0)$ $(1, -1)$ $(-1, -2)$ $(0, 1)$

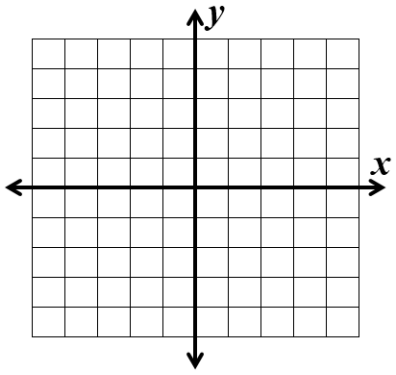
6. Mr. Kelly has 50 coins, all of which are either nickels or dimes. They have a value of \$3.85. Set up a system of equations to find out how many of each coin Mr. Kelly has.

   # of dimes: _____

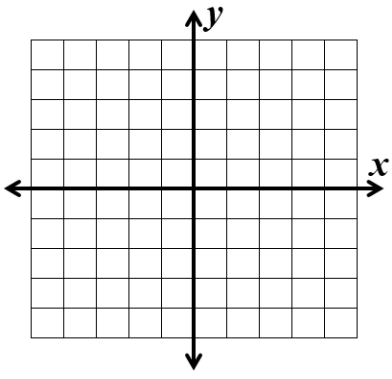
   # of quarters: _____

Graph each of the following. If it is a system of equations, include the intersection point with your answer.

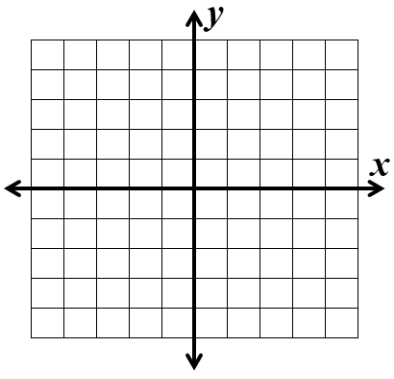
7. $y > -\frac{1}{2}x + 4$



8. $x + 2y < -2$
   $2x + y \geq 2$

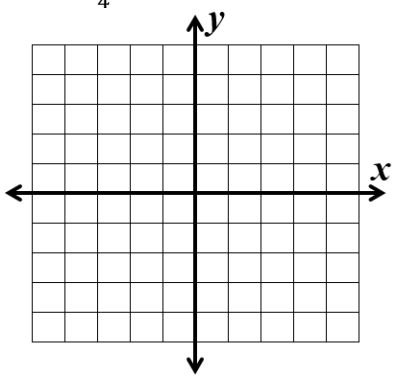


9. $2x + y = 3$
   $12x + 6y = 12$



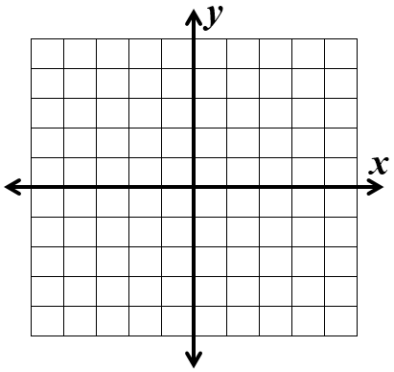
Answer: _____

10. $y = \frac{1}{4}x - 1$
$y = \frac{5}{4}x + 3$



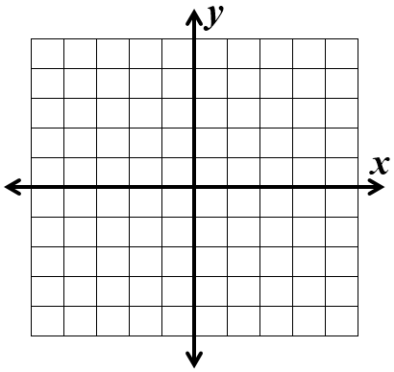
Answer: _____

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



Answer: _____

12. $x - 3y = -9$
$2x + y = -4$



Answer: _____

Solve each system algebraically with substitution or elimination. You must show your work.

13. $4x + 2y = 12$
$x - 3y = -4$

Write or circle your answer below.

$x =$ _____
$y =$ _____
Inf. Solutions or No Solution

14. $4x = 2y$
$-2x + y = -3$

Write or circle your answer below.

$x =$ _____
$y =$ _____
Inf. Solutions or No Solution

15. $3x - 6y = -9$
$x - 2y = -3$

Write or circle your answer below.

$x =$ _____
$y =$ _____
Inf. Solutions or No Solution

16. $-2x + 2y = -4$
$4x + y = -2$

Write or circle your answer below.

$x =$ _____
$y =$ _____
Inf. Solutions or No Solution

17. $x + 3y = -18$
$5x + 2y = -12$

Write or circle your answer below.

$x =$ _____
$y =$ _____
Inf. Solutions or No Solution

18. $2y = 4 + 6x$
$2x = y - 3$

Write or circle your answer below.

$x =$ _____

$y =$ _____

Inf. Solutions or No Solution

19. $-6x + 3y = -6$
$4x + 5y = 18$

Write or circle your answer below.

$x =$ _____

$y =$ _____

Inf. Solutions or No Solution

20. At Kit's Kitchen, the Big Deal costs \$3.50 for two hamburgers and one order of fries. The Family Pack costs \$12 for six hamburgers and 6 orders of fries. Set up a system of equations and solve it to find out the cost of one hamburger.

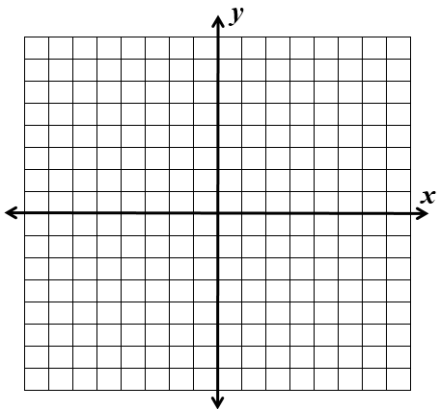
Price of Hamburger:

_____

For each equation, fill in the table of values that are solutions to the equation, then graph the solution set on the coordinate plane. Some points may not fit on the graph.

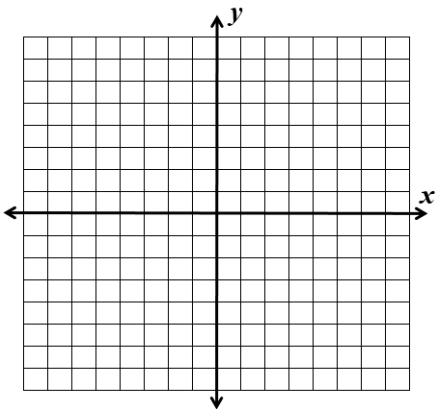
21. $3x + y = 8$

x	*y*
0	
	0
3	
	-7



22. $2x - y = -5$

x	*y*
0	
	0
-3	
	2



Solve each system by graphing with a graphing calculator. Round to 2 decimal places.

23. $y = \frac{8}{3}x + 6$
$y = -\frac{2}{5}x - 4$

$x =$ _____

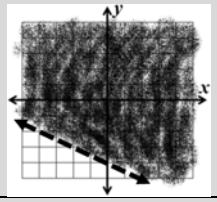
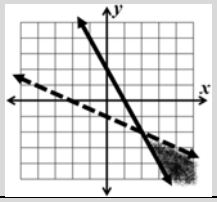
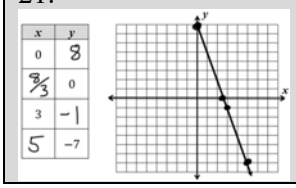
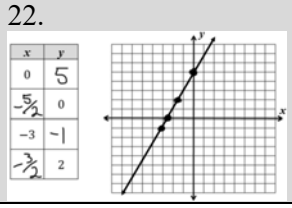
$y =$ _____

24. $4x - 3y = -27$
$x + 9y = -18$

$x =$ _____

$y =$ _____

Answers to Unit 3 Corrective Assignment

1. a) s = # of students n = # of non-students b) $4s + 8n = 56$ c) lots of possibilities!	2. $(-9,3), (-1,2)$	3. All five!	4. $(4,-3), (1,1)$	5. $(4,1), (0,1)$
6. $n + d = 50$ $0.05n + 0.1d = 3.85$ # of Dimes: 27 # of Quarters: 23	7. 	8. 	9. No Solution	10. $(-4,-2)$
11. Infinite Solutions	12. $(-3,2)$	13. $x = 2, y = 2$	14. No solution	15. Infinite sol.
16. $x = 0, y = -2$	17. $x = 0, y = -6$	18. $x = 1, y = 5$	19. $x = 2, y = 2$	20. $2h + f = 3.5$ $6h + 6f = 12$ Hamburger Price: \$1.50
21. 	22. 	23. $(-3.26, -2.70)$	24. $(-7.62, -1.15)$	