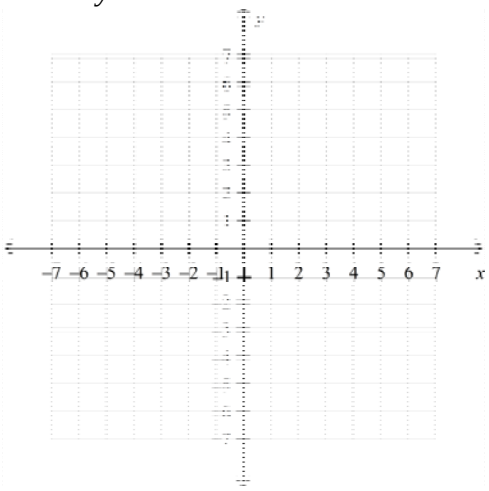
Name: _____ **Class:** _____ **Date:** _____ **ID: Q**

Systems - Study Guide

1. Graph to find a solution to the following system of equations.
$-5x + y = -5$
$-4x + 2y = 2$



Tell whether the system has *no solution*, *one solution*, or *infinitely many solutions*.

2. $y = 5x - 4$
$y = 5x - 5$
   a. no solutions
   b. one solution
   c. infinitely many solutions

Classify each system as *independent, dependent,* or *inconsistent.*

3. $\begin{cases} y = 4x + 6 \\ -8x + 2y = 12 \end{cases}$
   a. independent
   b. inconsistent
   c. dependent

Solve the system of equations using substitution. SHOW WORK!!

4. $3x + 2y = 7$
$y = -3x + 11$

5. $\begin{cases} 6x - 5y = 50 \\ x - 2y = 13 \end{cases}$

Solve the systems using elimination. SHOW WORK!!

6. $2x - 2y = -8$
$x + 2y = -1$

7. $3x - 4y = -24$
$x + y = -1$

Solve the systems by any method. SHOW WORK!!

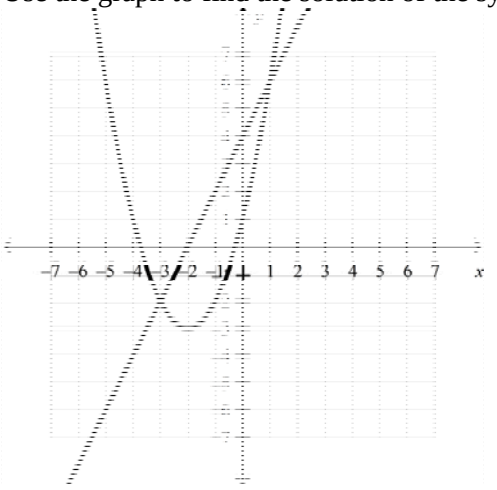
8. $3x - 4y = 9$
$-3x + 2y = 9$

9. $\begin{cases} -x + 2y = 10 \\ -3x + 6y = 11 \end{cases}$

10. $3x + 3y = -9$
$3x - 3y = 21$

11. $2x + 4y = -10$
$2x + 8y = -22$

12. Use the graph to find the solution of the system.



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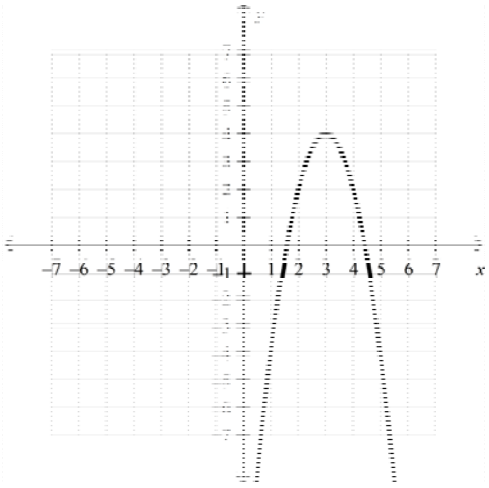
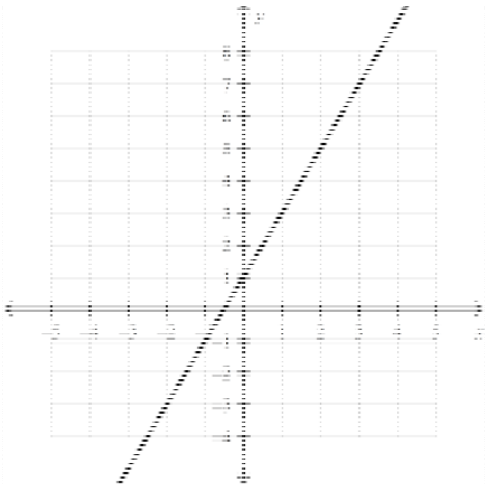
13. Use the graph to find the solution of the system.

$$\begin{cases} y = -2(x-3)^2 + 4 \\ y = 2x - 6 \end{cases}.$$



14. Use the graph to find the solution of the system.

$$\begin{cases} y = 2x^2 - 4x + 1 \\ 2x - y = -1 \end{cases}.$$



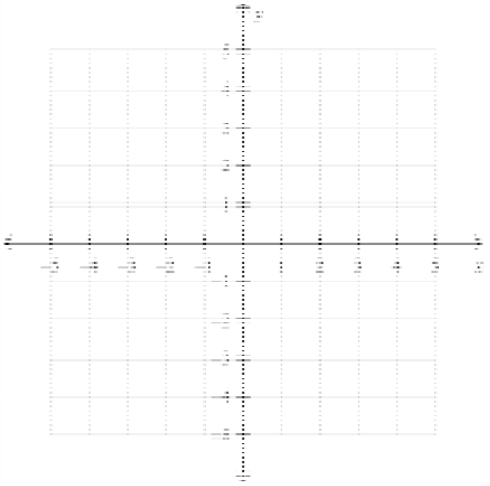
Solve the system using either method of substitution or elimination.

15. $\begin{cases} 3x + 5y + 4z = 13 \\ 5x + 2y + 3z = -9 \\ 6x + 3y + 4z = -8 \end{cases}$

16. $\begin{cases} x - 3y - z = -9 \\ -2x + y + 2z = 3 \\ 2x + y + 3z = 8 \end{cases}$

Solve the system of inequalities by graphing.

17. $\begin{cases} y \geq -3x - 4 \\ y \leq \frac{1}{3}x + 1 \end{cases}$



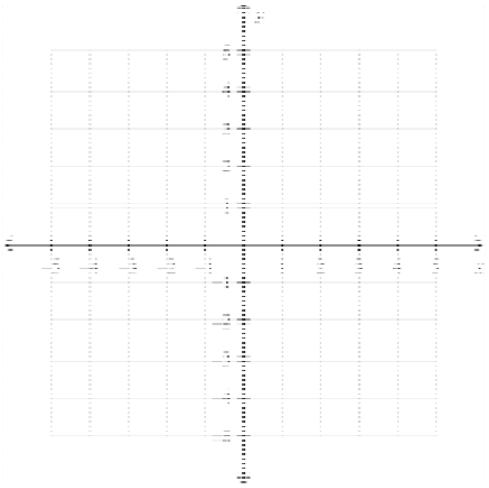
Which of these ordered pairs are solutions to the system of inequalities. Select all that apply. [Note: There may be more than one!]

18. $\begin{cases} y \geq -x - 3 \\ y \leq \frac{1}{4}x - 1 \end{cases}$

a. (2, -3)
b. (-2, -3)
c. (2, 3)
d. (-2, 3)

19. $y > x^2 - 6x + 3$

$y \leq \frac{2}{3}x - 4$



20. Bob was solving a systems of three equations. He got the answer (4, -3, 2). His teacher told him he got two of the values correct. Find Bob's mistake in the work below.

$$\begin{cases} 2x + y + 2z = 17 \\ x - 3y - 2z = 1 \\ x - y + z = 13 \end{cases}$$

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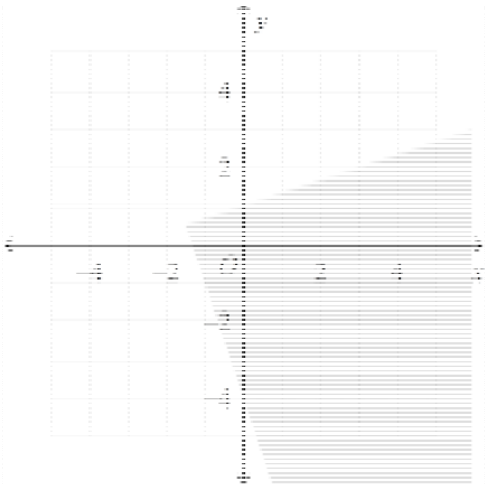
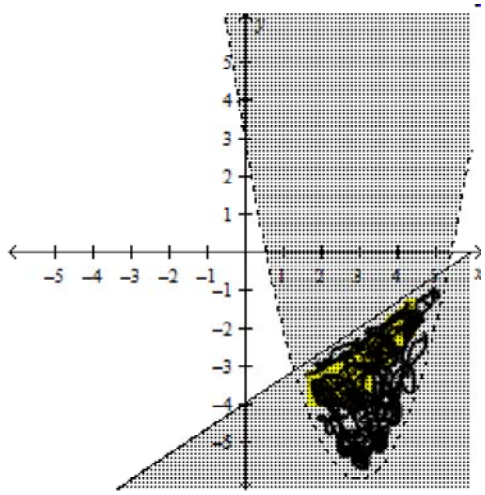
a. asdfg
b. d
c. ef
d. wg

Systems - Study Guide
Answer Section

1. (2, 5)
2. A
3. C
4. (5, –4)
5. (5, -4)
6. (–3, 1)
7. (–4, 3)
8. (–9, –9)
9. no solutions
10. (2, –5)
11. (1, –3)
12. (-3, -2) and (1, 6)
13. (1, -4) and (4, 2)
14. (1, -4) and (4, 2)
15. (–3, 6, –2)
16. (1, 3, 1)
17. 
18. A

19. 

20. C