

# KEY

## Algebra 2 – Unit 3 Test Review

1. What is a system of equations?

Two or more equations with the same variables.

2. How many solutions does two intersecting lines have?

1 Solution

3. The graph of parallel lines has how many solutions?

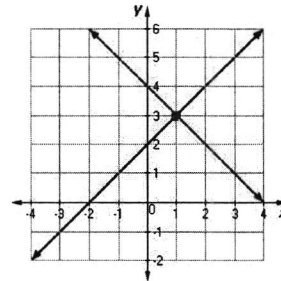
No Solution

4. What are the three ways to solve a system of equations.

Graphing, Substitution, Elimination

5. Determine the solution to the system of equation to the right:

(1, 3)



6. If one of the solutions of the system below is  $x=4$ , then what does  $y$  equal?

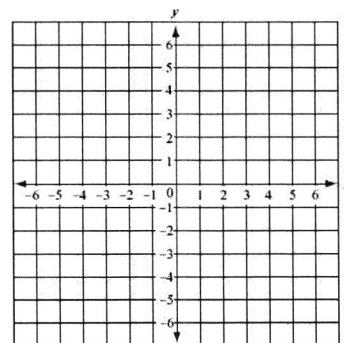
$$y = 3$$

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

7. Solve the system of equations by graphing:

$$\begin{cases} y = -2x + 2 \\ y = \frac{1}{2}x - 3 \end{cases}$$

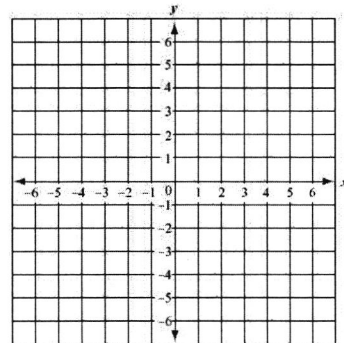
(2, -2)



8. Solve the system of equations by graphing:

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

Infinite Solutions



9. Solve the system of equations:

$$\begin{cases} y = -4x + 3 \\ y = -2x - 1 \end{cases}$$

(2, -5)

10. Solve the system of equations:

$$\begin{cases} y = -4x + 10 \\ y = -3x + 8 \end{cases}$$

(2, 2)

11. Solve the system of equations:

$$\begin{cases} -5x + 4y = -2 \\ -5x - 4y = -18 \end{cases}$$

(2, 2)

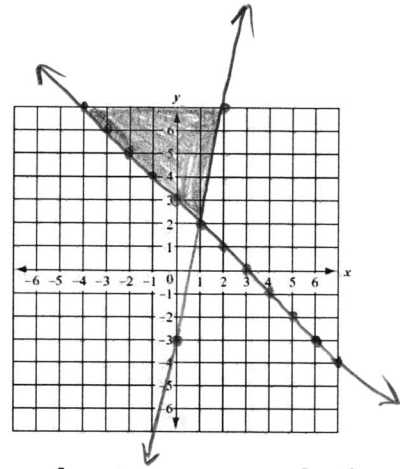
12. Solve the system of equations:

$$\begin{cases} -7x + 6y = -14 \\ -x - y = -2 \end{cases}$$

(2, 0)

13. Solve the system of inequality:

$$\begin{cases} y \geq 5x - 3 \\ y \geq -x + 3 \end{cases}$$

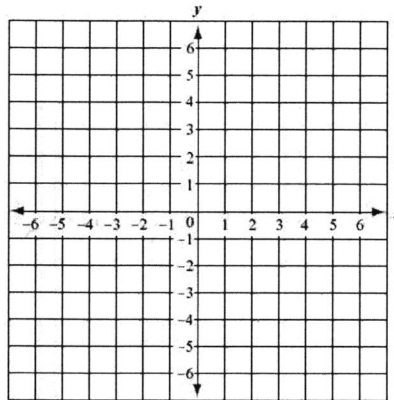


Solve each of the following system by the specified way, remember to express each of your answers as an ordered pair if possible:

Solve the following system of equations by graphing:

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

$$(-1, -2)$$



14. Solve the following system of equation by substitution:

$$\begin{cases} y = 2x - 7 \\ y = x - 3 \end{cases}$$

$$(4, 1)$$

15. Solve the following system of equation by elimination:

$$\begin{cases} 4x + 3y = 15 \\ -4x + 4y = 20 \end{cases}$$

$$(0, 5)$$

16. Solve the following system of equations by ANY method:

$$\begin{cases} -2x - 2y = -10 \\ x + 2y = 8 \end{cases}$$

(2, 3)

17. Solve the system of linear inequalities:

$$\begin{cases} y > 5x - 2 \\ y \leq x + 2 \end{cases}$$

