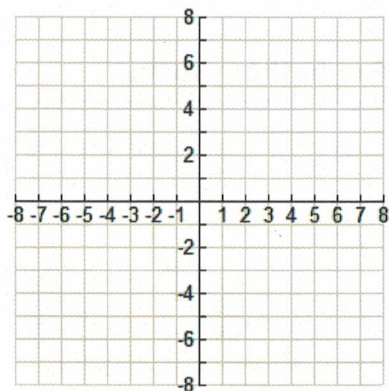
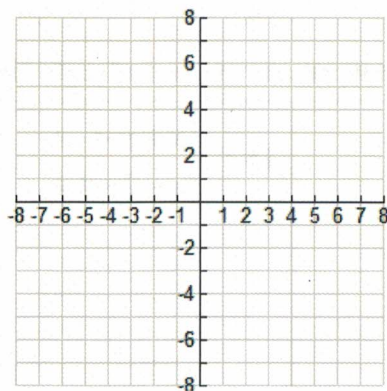


**I. Solve each system by graphing. State no solution or infinitely many solutions where it applies.**

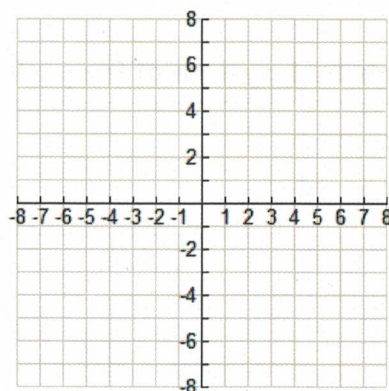
1.) 
$$\begin{cases} x + 4y = 4 \\ y = x - 4 \end{cases}$$

Solution(s): (4,0)

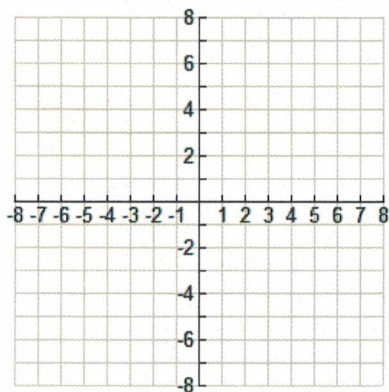
2.) 
$$\begin{cases} 2y = -6x - 8 \\ 3x + y = -4 \end{cases}$$

Solution(s):  $\text{Imgs} \rightarrow \mathbb{R}$   
(All Real #'s)

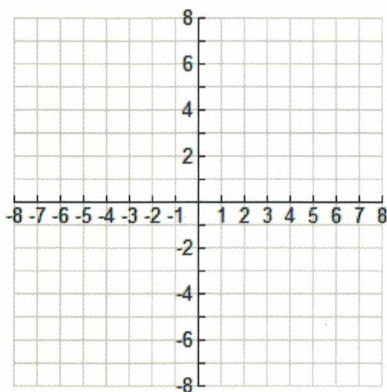
3.) 
$$\begin{cases} x = -y - 5 \\ y = -x + 3 \end{cases}$$

Solution(s): No solution

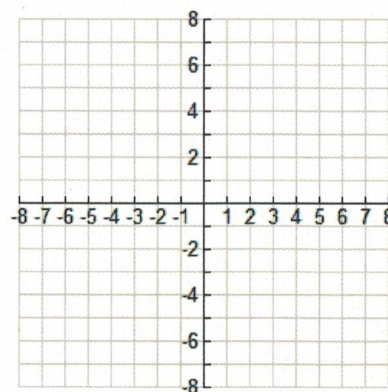
4.) 
$$\begin{cases} y = x^2 + 2x - 3 \\ y = 2x + 1 \end{cases}$$

Solution(s): (-2,-3) (2,5)

5.) 
$$\begin{cases} y = -x^2 - 6x - 6 \\ y = 3 \end{cases}$$

Solution(s): (-3,3)

6.) 
$$\begin{cases} y = x^2 - 4x + 2 \\ y = -\frac{3}{4}x - 1 \end{cases}$$

Solution(s): No solution**II. Solve each system using the substitution or the elimination method.****Write infinitely many solutions or no solution where it applies. Must show work!**

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

(1,3)

8.) 
$$\begin{cases} y = 3x - 6 \\ 3x - y = 6 \end{cases}$$

 $\text{Imgs} \rightarrow \mathbb{R}$ 

9.) 
$$\begin{cases} 10x - 12y = 19 \\ 5x - 6y = 13 \end{cases}$$

 $\emptyset$

$$10.) \begin{cases} y = x^2 + 5x - 2 \\ y = 3x - 2 \end{cases}$$

$(0, -2) \quad (-2, 4)$

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

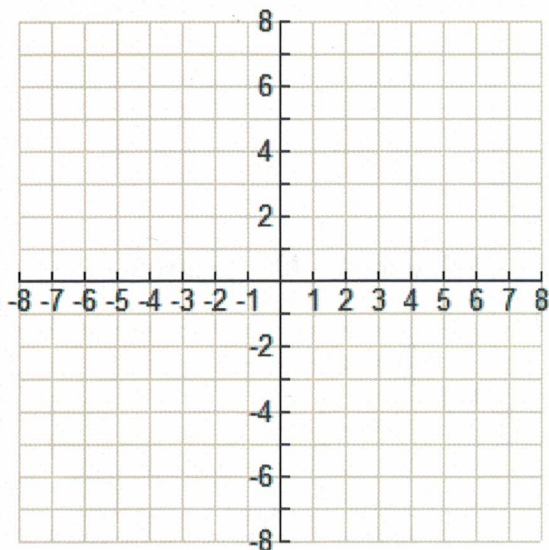
$(-2, 4)$

$$12.) \begin{cases} y = -2x^2 - 4x - 1 \\ y = 2x + 4 \end{cases}$$

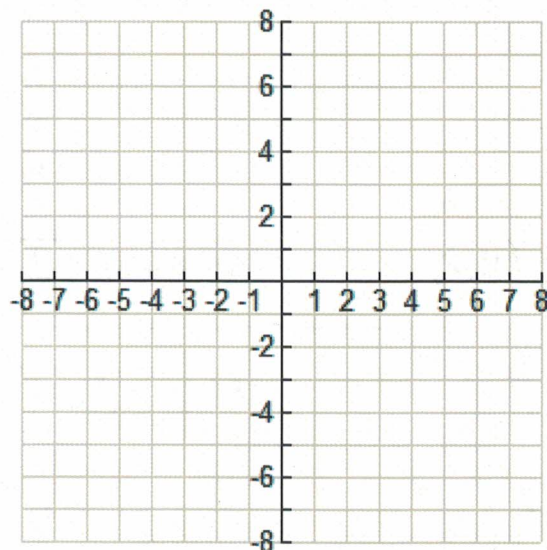
$\emptyset$

**IV. Graph each system of inequalities. Draw an arrow to indicate the solution to the system.**

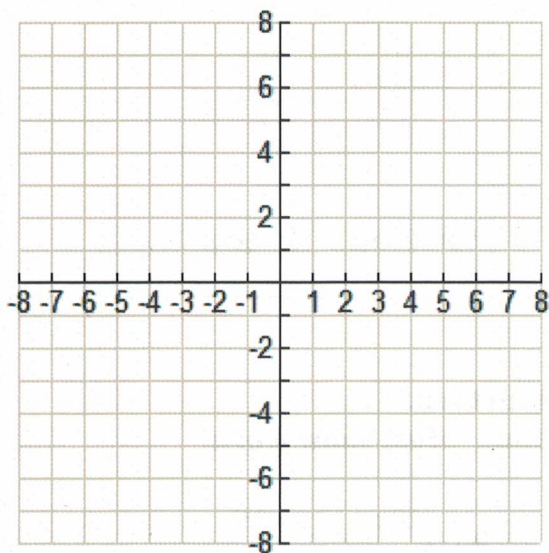
$$13.) \begin{cases} y \geq -x + 5 \\ y < 3x - 4 \end{cases}$$



$$14.) \begin{cases} x + y < -4 \\ x - 2y \leq 4 \end{cases}$$



$$15.) \begin{cases} x + y \leq -6 \\ y < x^2 + 6x \end{cases}$$



$$16.) \begin{cases} y \geq x + 3 \\ y > 4x - x^2 \end{cases}$$

