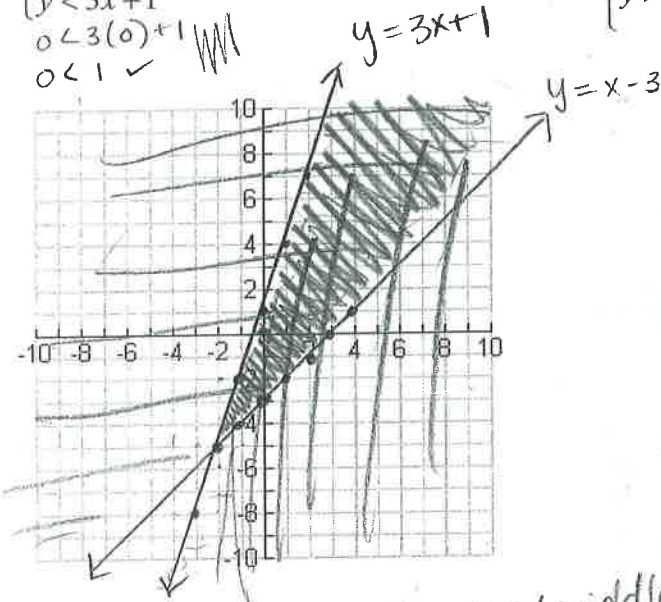


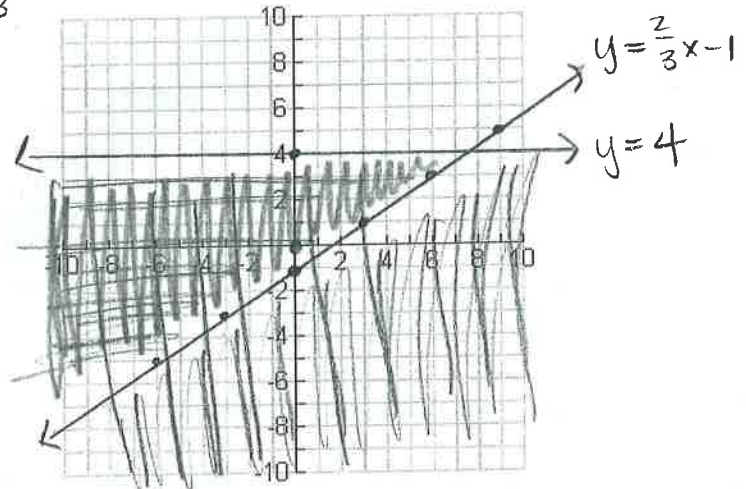
### 3-6 Graphing Systems of Inequalities

Shade the feasible/viable solution.

1. 
$$\begin{cases} 0 \geq 0 - 3 & 0 \geq -3 \checkmark \equiv \\ y \geq x - 3 \\ y < 3x + 1 \\ 0 < 3(0) + 1 & 0 < 1 \checkmark \equiv \end{cases}$$



2. 
$$\begin{cases} y < 4 & 0 < 4 \checkmark \equiv \\ y > \frac{2}{3}x - 1 & 0 > 0x - 1 & 0 > -1 \checkmark \equiv \end{cases}$$



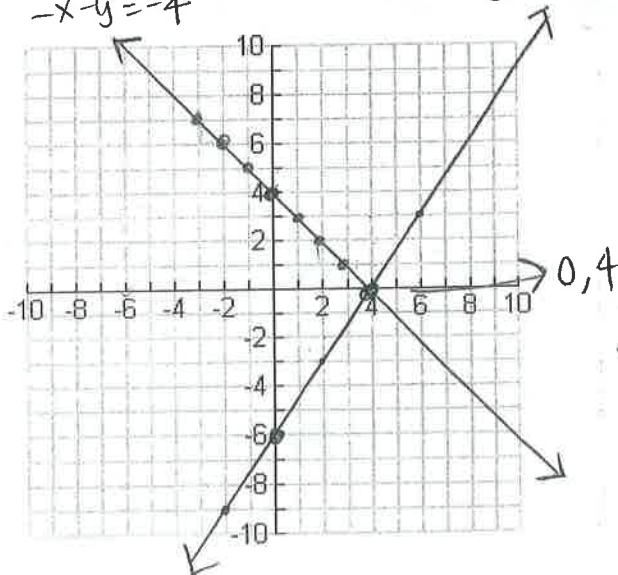
Is the point (3, 4) a viable solution? yes (middle)  
Is the point (6, -5) a viable solution? no (outside)

Is the point (-6, 4) a viable solution? yes (mid)  
Is the point (8, 5) a viable solution? no (out)

3. 
$$\begin{cases} 3x - 2y = 12 \\ -x - y = -4 \end{cases}$$

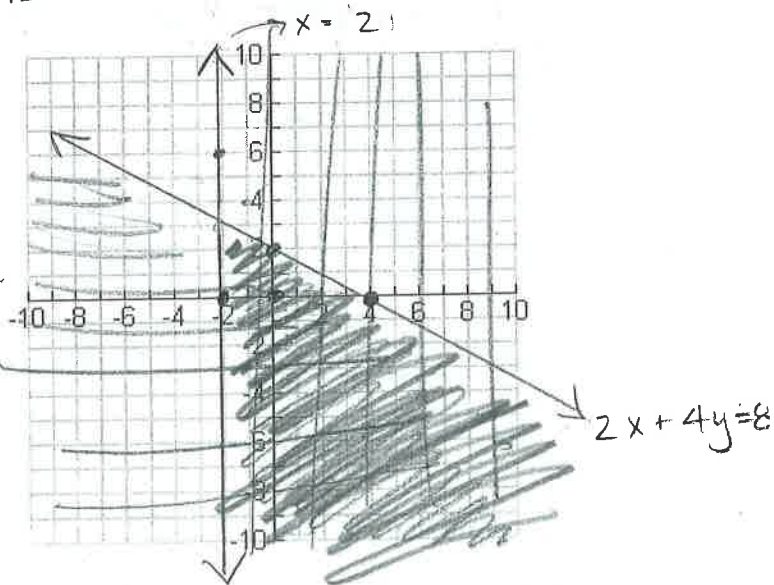
(NOTE: these are equations)

$-x - y = -4$



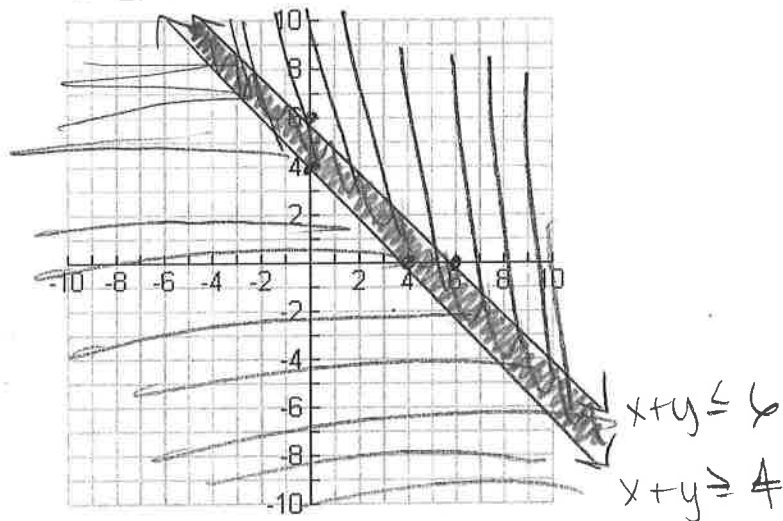
Is the point (6, 3) a viable solution? no  
Is the point (4, 0) a viable solution? yes  
Is the point (0, 4) a viable solution? no

4. 
$$\begin{cases} x \geq -2 \\ 2x + 4y < 8 \end{cases}$$



Is the point (4, 0) a viable solution? no  
Is the point (-1, -2) a viable solution? yes

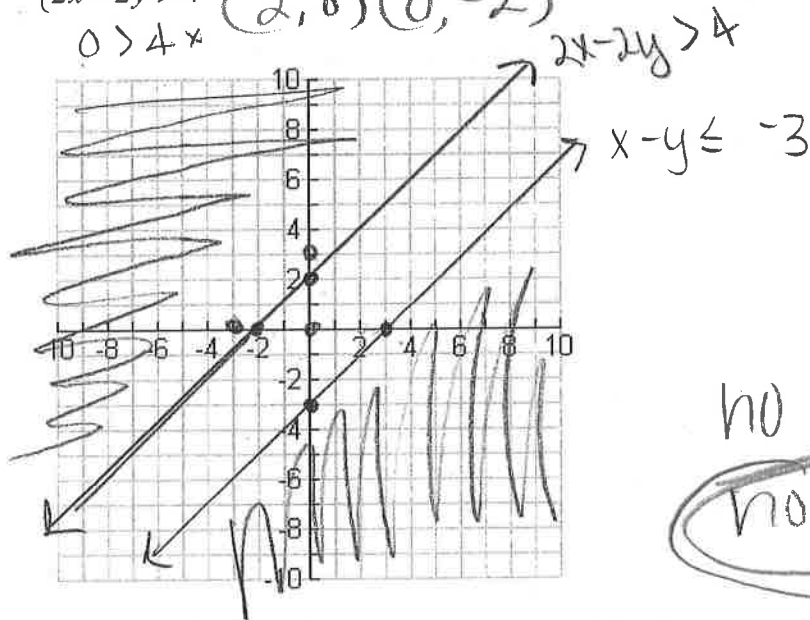
5.  $0 \leq 6$  ✓  $(6, 0)$   $(0, 6)$   
 $\begin{cases} x+y \leq 6 \\ x+y \geq 4 \end{cases}$   $(4, 0)$   $(0, 4)$   
 $0 \geq 4$  ✓



Name a point that is viable to the system. (5, 0)

Name a point that is NOT viable to the system. (0, 8)

6.  $0 \leq -3$  ✗  
 $\begin{cases} x-y \leq -3 \\ 2x-2y > 4 \end{cases}$   $(-3, 0)$   $(0, 3)$   
 $0 > 4$  ✗  $(2, 0)$   $(0, -2)$



no overlap  
no solution

Name a point that is viable to the system. none

Name a point that is NOT viable to the system. any