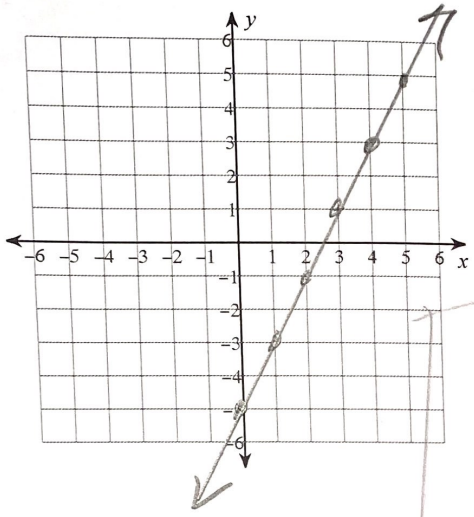


# Graphing Equations and Inequalities Notes

Sketch the graph of each line. Is  $(1, -3)$  a solution? Why or why not?

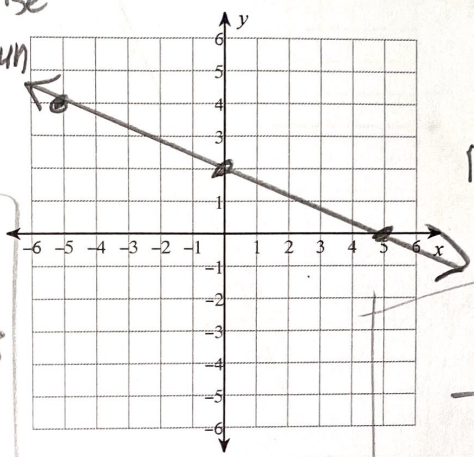
1)  $y = 2x - 5$



$(0, -5)$   
 $m = +2 = \frac{2 \text{ rise}}{1 \text{ run}}$

Yes.  
 $-3 = 2(1) - 5$   
 $-3 = -3$   
or,  
the point  
is on the  
line.

2)  $y = -\frac{2}{5}x + 2$



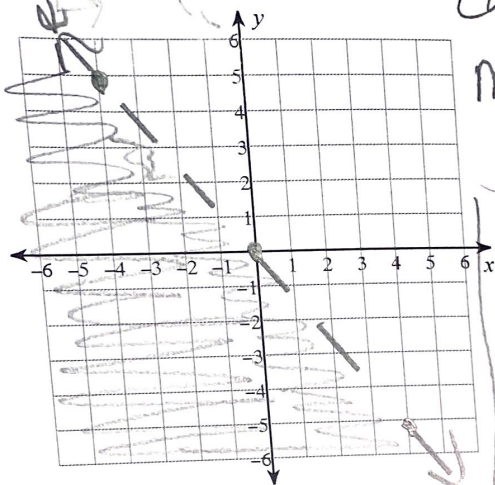
$(0, 2)$   
 $m = -\frac{2}{5} \text{ rise}$   
 $\text{run}$

No.  
 $-3 \neq -\frac{2}{5}(1) + 2$   
 $-3 \neq 1.6$   
or, the  
point is  
on the  
line.

# Graphing Equations & Inequalities Notes

Sketch the graph of each linear inequality. Is  $(0, 0)$  a solution? Why or why not?

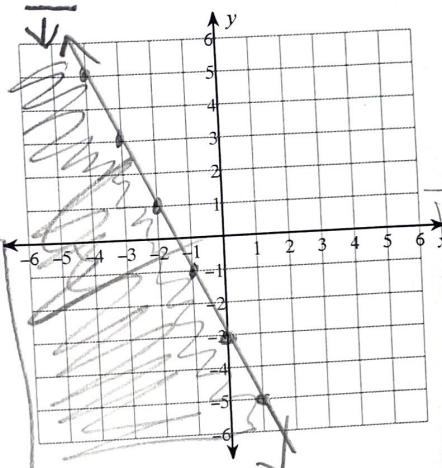
3)  $y < -\frac{5}{4}x$



$(0, 0)$   
 $m = -\frac{5 \text{ rise}}{4 \text{ run}}$

No,  
 $0 < -\frac{5}{4}(0)$   
 $0 < 0$   
 or, it is  
 on the line  
 but the  
 line is  
 dashed

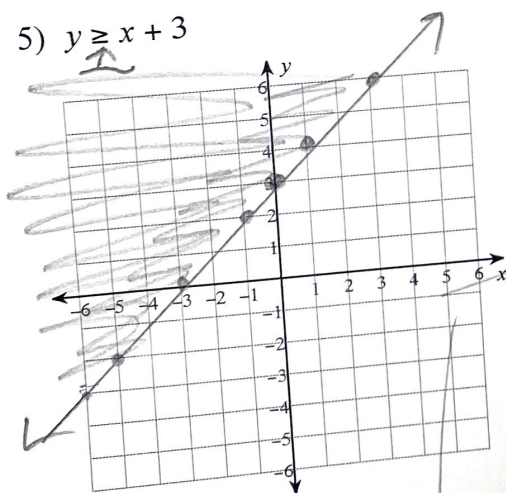
4)  $y \leq -2x - 3$



$(0, -3)$   
 $m = -2 = -\frac{2 \text{ rise}}{1 \text{ run}}$

No,  
 $0 \leq -2(0) - 3$   
 $0 \leq -3$   
 or, it is  
 not in the  
 shaded  
 region.

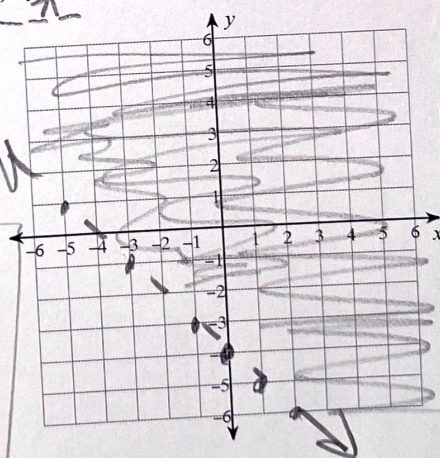
5)  $y \geq x + 3$



$(0, 3)$   
 $m = +1 = \frac{1 \text{ rise}}{1 \text{ run}}$

No,  
 $0 \geq 0 + 3$   
 $0 \geq 3$  or,  
 it is not in  
 the shaded  
 region.

6)  $y > -x - 4$



$(0, -4)$   
 $m = -1 = -\frac{1 \text{ rise}}{1 \text{ run}}$

Yes,  
 $0 > -(0) - 4$   
 $0 > -4$   
 or  
 it is in the  
 shaded region.