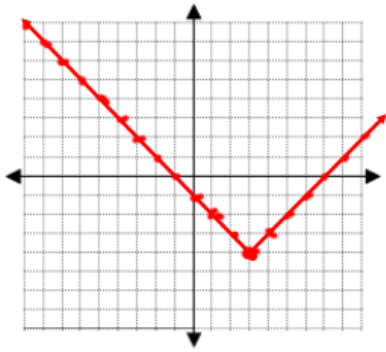


## 3.2 Absolute Value Graphs

## PRACTICE

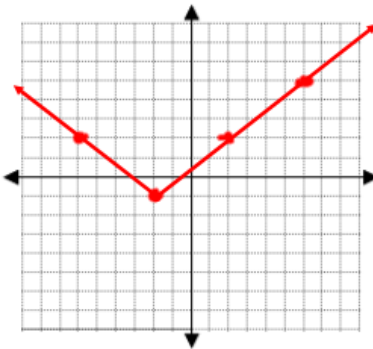
Graph the following absolute value functions. State the range.

1.  $y = |x - 3| - 4$



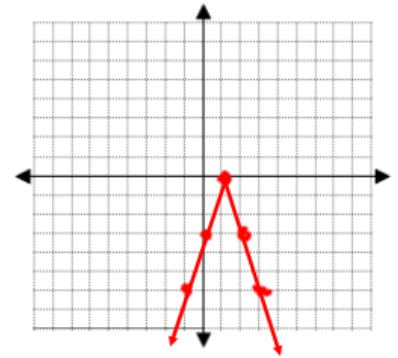
Range =  $y \geq -4$

2.  $f(x) = \frac{3}{4}|x + 2| - 1$



Range =  $y \geq -1$

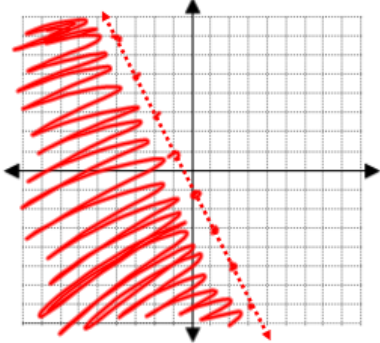
3.  $y = -3|x - 1|$



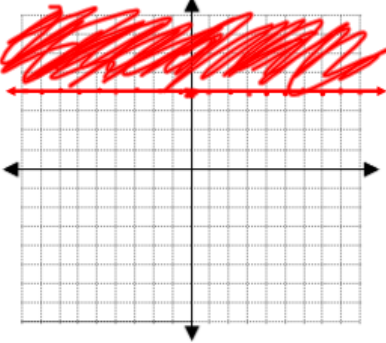
Range =  $y \leq 0$

Graph the following inequalities.

4.  $f(x) < -2x - 1$



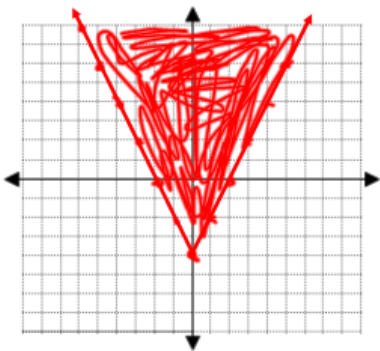
5.  $y \geq 4$



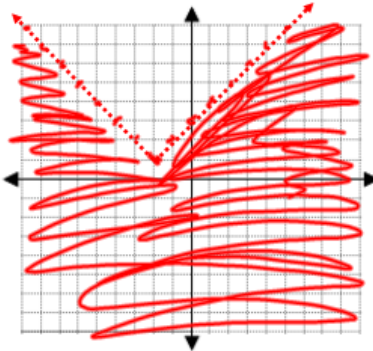
6.  $2x - 3y \leq -9$



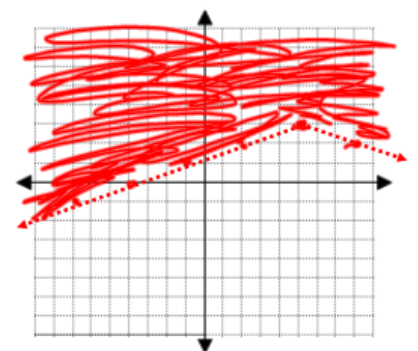
7.  $y \geq 2|x| - 4$



8.  $f(x) < |x + 2| + 1$



9.  $y > -\frac{1}{3}|x - 5| + 3$

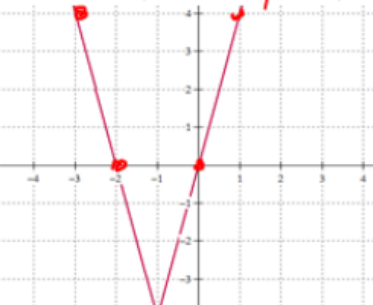


Write the equation of the absolute value function.

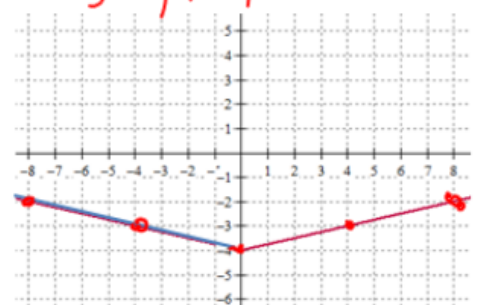
10.  $y = -\frac{2}{3}|x - 2| + 3$



11.  $y = 4|x + 1| - 4$



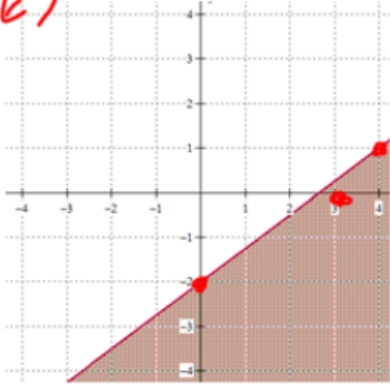
12.  $y = \frac{1}{4}|x| - 4$



Write the equation of the following inequality. Is the point given in the solution set?

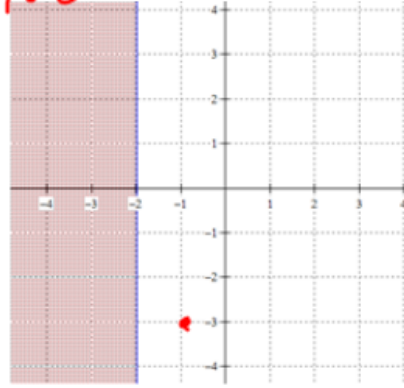
13. (3,0)

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



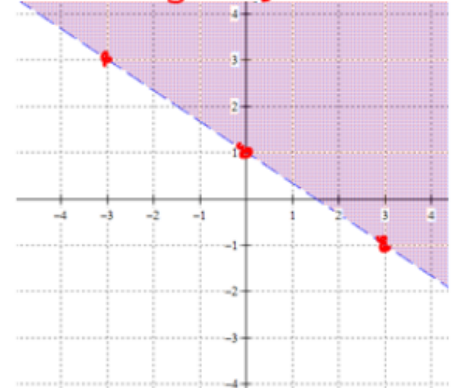
14. (-1,-3)

NO  $x \leq -2$



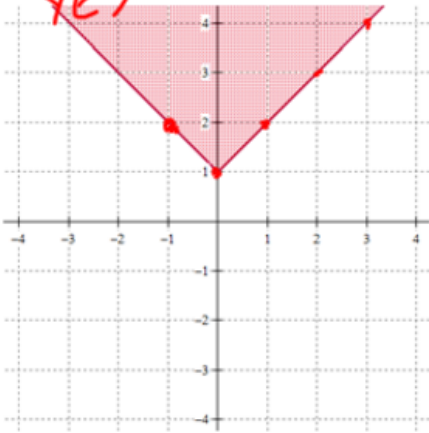
15. (0,1)

NO  $y > -\frac{2}{3}x + 1$



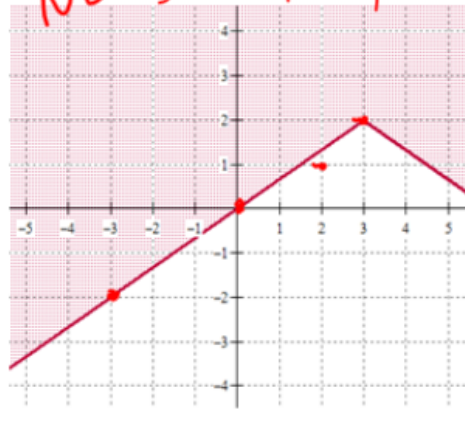
16. (-1,2)

YES  $y \geq |x| + 1$



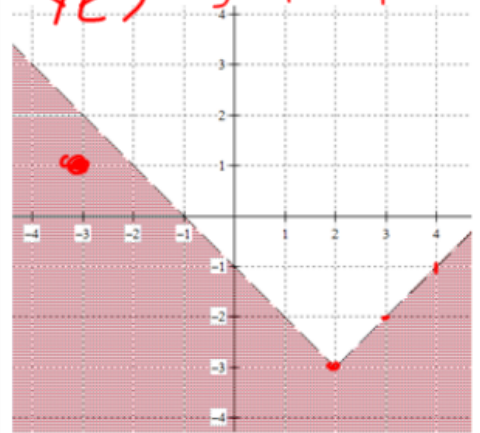
17. (2,1)

NO  $y \geq -\frac{2}{3}|x-3| + 2$



18. (-3,1)

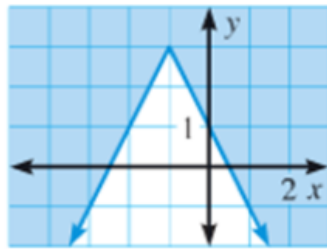
YES  $y < |x-2| - 3$



Multiple Choice

19. The graph of which inequality is shown?

- A.  $y \leq -2|x+1| + 3$
- B.  $y \geq -2|x-1| + 3$
- C.  $y > -2|x+1| + 3$
- D.  $y \geq -2|x+1| + 3$

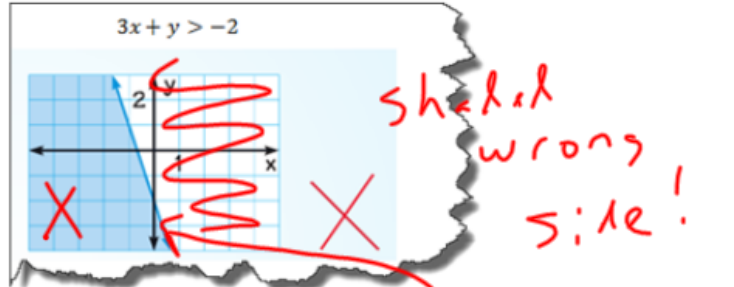


solid line  
greater  
than or  
equal to

shifted:  
left 1  
up 3  
Flipped  
            
a = 2

Error Analysis

20. Describe and correct the error in graphing.



$3x + y > -2$   
 $-3x$        $-3x$   
 $y > -3x - 2$   
dotted  
line!