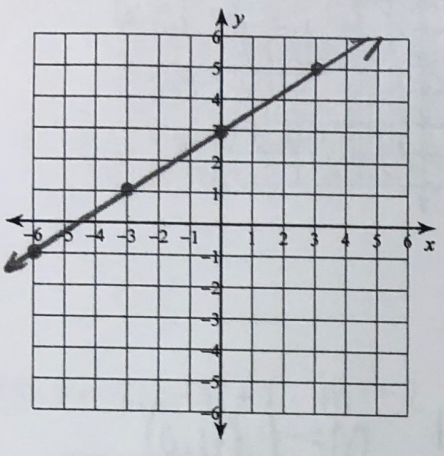
Algebra 1

Name Key

Graphing Inequalities Review

Sketch the graph of each line.

1) $y = \frac{2}{3}x + 3$ $m = \frac{2}{3}$ $b = 3$

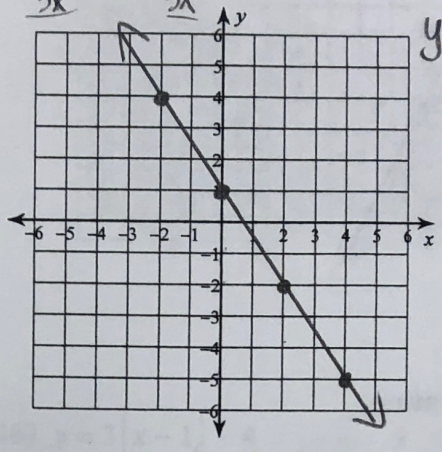


2) $3x + 2y = 2$ $\frac{2y}{2} = \frac{-3x+2}{2}$

$-3x \quad -3x$

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

$m = -\frac{3}{2}$ $b = 1$

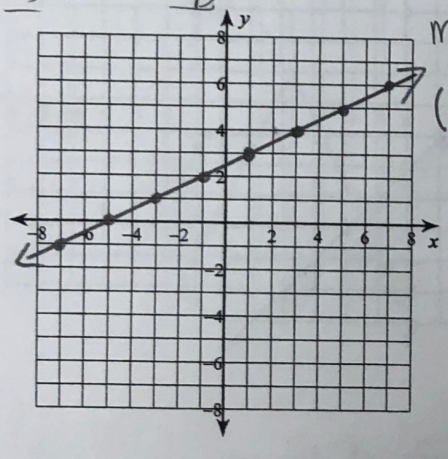


3) $y = \frac{1}{2}(x-1) + 3$ $y - 3 = \frac{1}{2}(x-1)$

$-3 \quad +3$

$m = \frac{1}{2}$

$(1,3)$

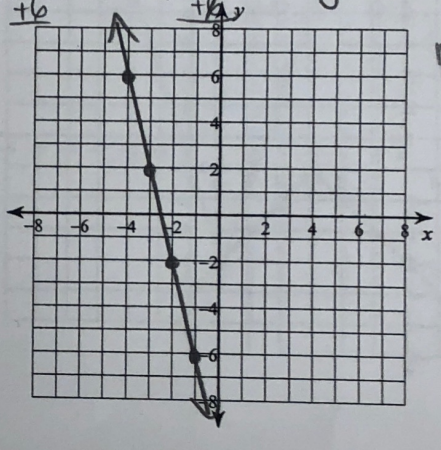


4) $y = -4(x+1) - 6$ $y + 6 = -4(x+1)$

$+6 \quad +6$

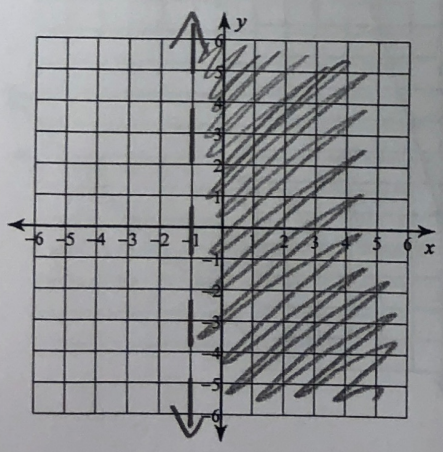
$m = -4$

$(-1,-6)$

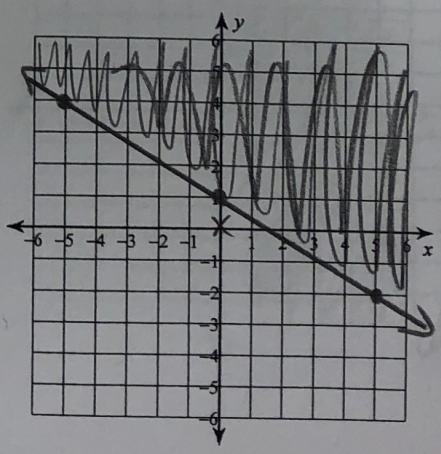


Sketch the graph of each linear inequality.

5) $x > -1$



6) $y \geq -\frac{3}{5}x + 1$ $m = -\frac{3}{5}$ $b = 1$



$(0,0)$

$0 \geq 1$

7) $2x + y \leq -2$ $y \leq -2x - 2$

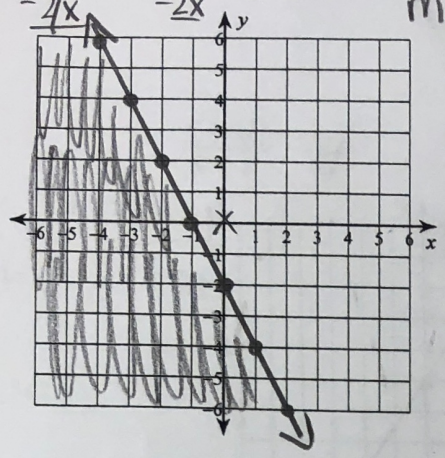
$-2x \quad -2x$

$m = -2$

$b = -2$

$(0,0)$

$0 \leq -2$



8) $5x - 4y \geq 8$ $\frac{-4y}{-4} \geq \frac{-5x+8}{-4}$

$-5x \quad -5x$

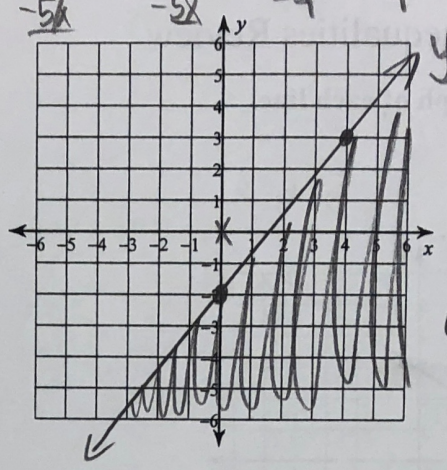
$y \leq \frac{5}{4}x - 2$

$m = \frac{5}{4}$

$b = -2$

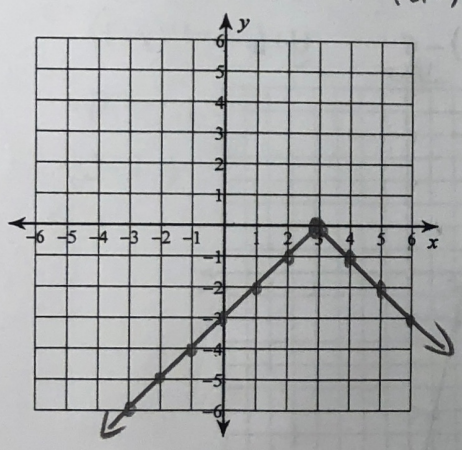
$(0,0)$

$0 \geq 8$

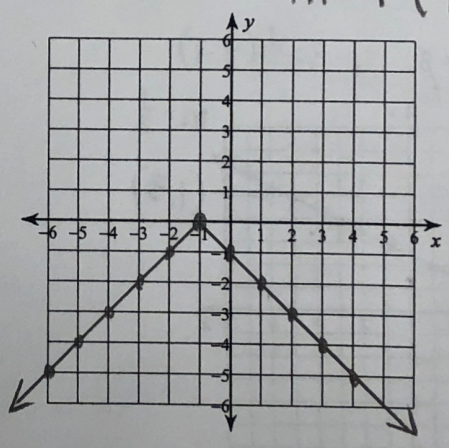


Graph each equation.

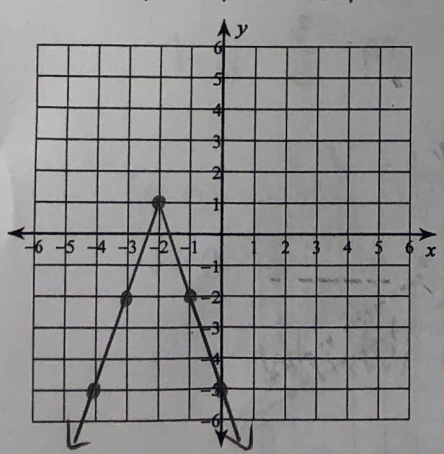
9) $y = -|x - 3|$ $m = -1$ $(3,0)$



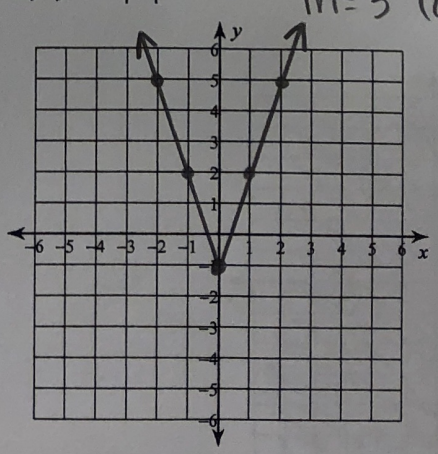
10) $y = -|x + 1|$ $m = -1$ $(-1,0)$



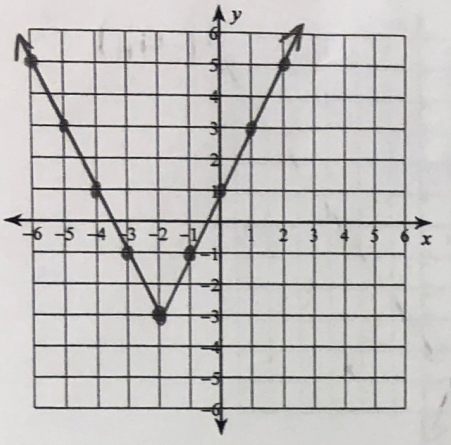
11) $y = -3|x + 2| + 1$ $m = -3$ $(-2,1)$



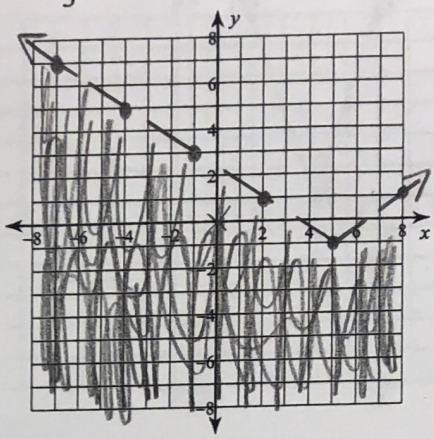
12) $y = 3|x| - 1$ $m = 3$ $(0,-1)$



13) $y = 2|x+2| - 3$ m = 2 (-2, -3)



14) $y < \frac{2}{3}|x-5| - 1$ m = $\frac{2}{3}$ (5, -1)

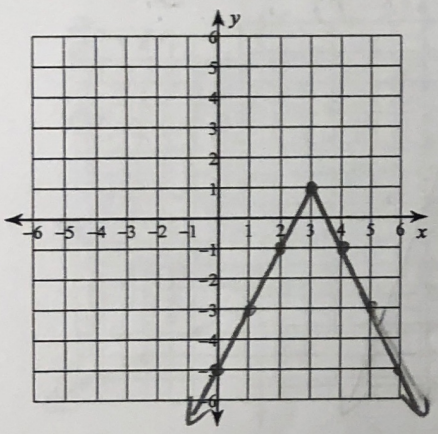


(0,0)

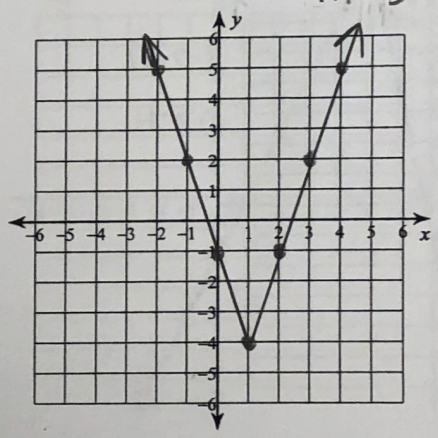
$0 < \frac{10}{3} - 1$

$0 < \frac{7}{3}$

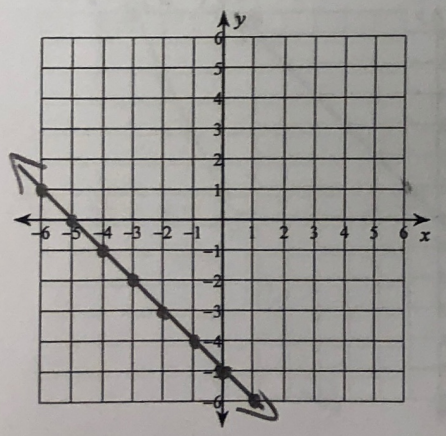
15) $y = -2|x-3| + 1$ m = -2 (3, 1)



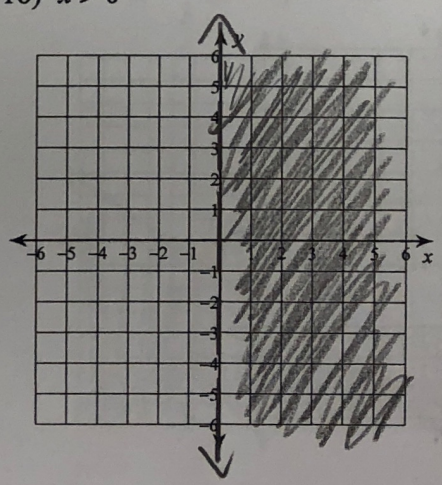
16) $y = 3|x-1| - 4$ m = 3 (1, -4)



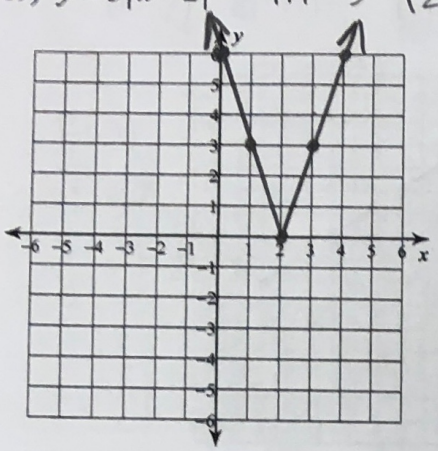
17) $y = -x - 5$ m = -1 b = -5



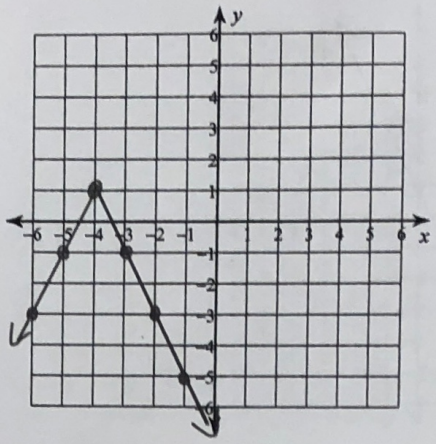
18) $x > 0$



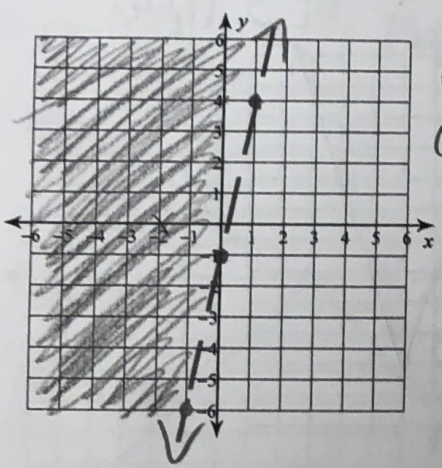
19) $y = 3|x-2|$ m = 3 (2,0)



20) $y = -2|x+4|+1$ m = -2 (-4,1)



21) $y > 5x - 1$ m = 5 b = -1

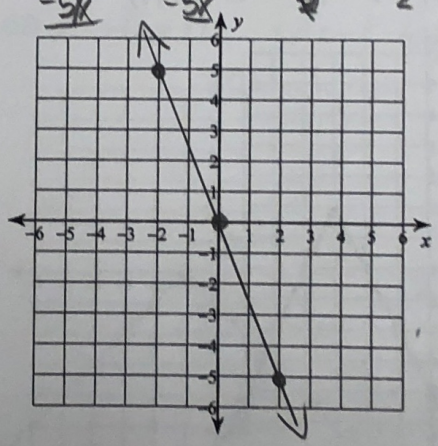


(-2,0)

0 > -11

22) $5x + 2y = 0$ $\frac{2y}{2} = \frac{-5x}{2}$ $y = \frac{-5}{2}x$

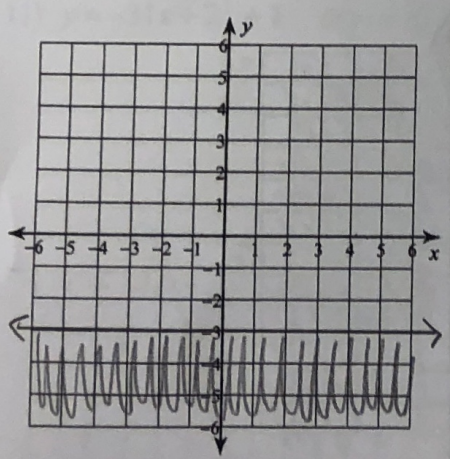
$-5x \quad -5x$



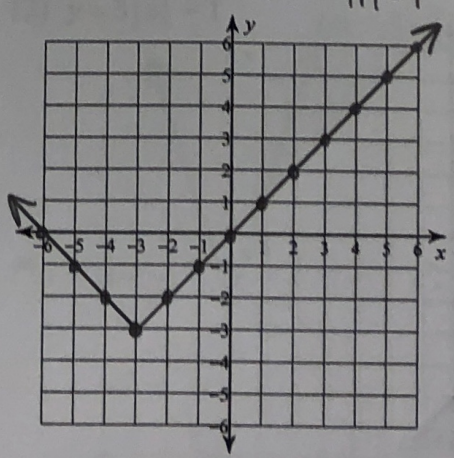
m = $\frac{-5}{2}$

b = 0

23) $y \leq -3$



24) $y = |x+3| - 3$ m = 1 (-3,-3)



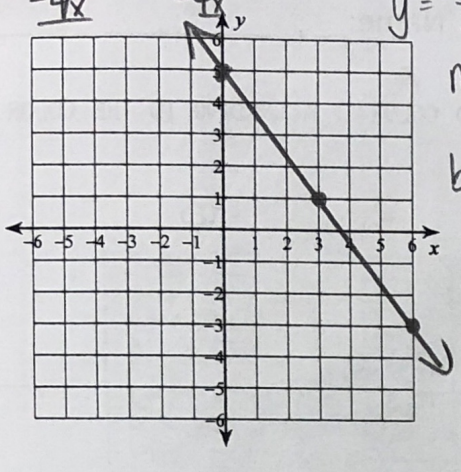
25) $4x + 3y = 15$

$\frac{By}{B} = \frac{-4x+15}{3}$

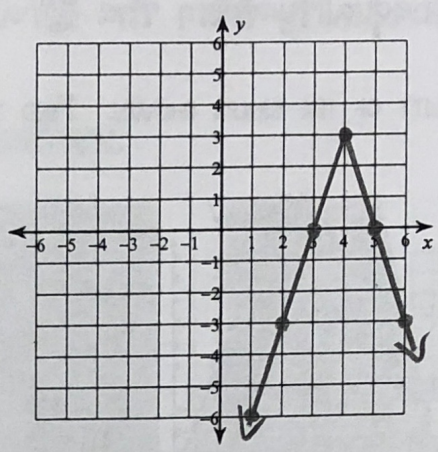
$y = \frac{-4}{3}x + 5$

$m = \frac{4}{3}$

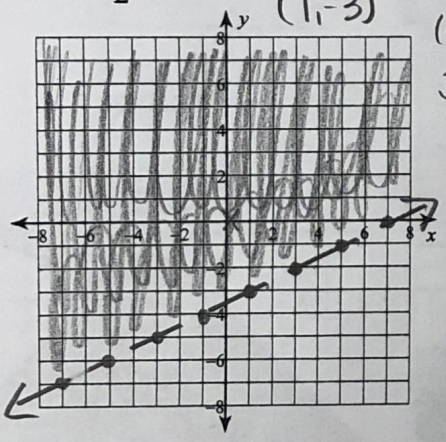
$b = 5$



26) $y = -3|x-4| + 3$ $m = -3$ $(4,3)$



27) $y + 3 > \frac{1}{2}(x-1)$ $m = \frac{1}{2}$ $(1,-3)$ $(0,0)$ $3 > -\frac{1}{2}$



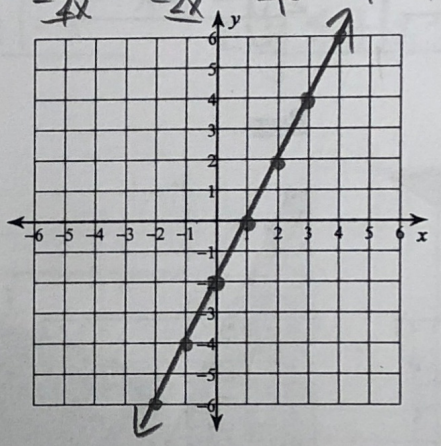
28) $2x - y = 2$

$y = -2x + 2$

$y = 2x - 2$

$m = 2$

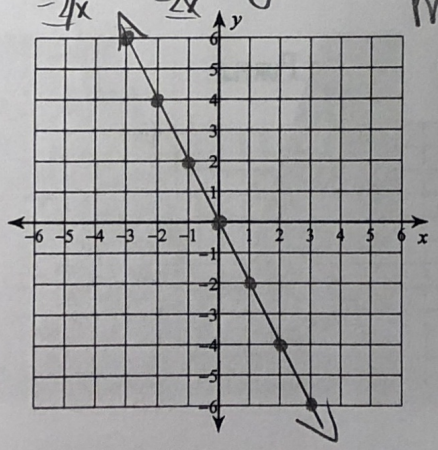
$b = -2$



29) $2x + y = 0$ $y = -2x$

$m = -2$

$b = 0$



30) $y + 2 \leq -\frac{2}{3}(x+1)$ $m = -\frac{2}{3}$ $(-1,-2)$ $(0,0)$ $2 \leq -\frac{2}{3}$