CP Algebra 2
Review Sections 1-4 thru 1-6

Name : KEY

Write a linear equation (y = mx + b) to represent the information given in each problem.

1) slope = -6, passes thru (0, 10)

↑ is a y-int.

$y = -6x + 10$

2) slope = $\frac{1}{2}$, passes thru (-8, 3)

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

$3 = \frac{1}{2}(-8) + b$

$3 = -4 + b$

$7 = b$

$y = \frac{1}{2}x + 7$

3) passes thru (8, 2) & (6, 6)

$m = \frac{6-2}{6-8} = \frac{4}{-2} = -2$

$y = -2x + b$

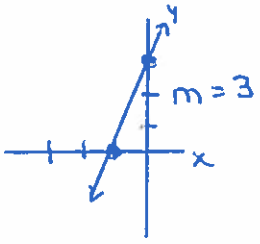
$2 = -2(8) + b$

$2 = -16 + b$

$18 = b$

$y = -2x + 18$

4) has x-intercept of -1 and y-intercept of 3



$y = 3x + 3$

5) passes thru (4, 2) and is ⊥ to the line whose equation is y – 2x – 5 = 0

$y = 2x + 5$

$m = 2$, $\perp = -\frac{1}{2}$

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

$2 = -\frac{1}{2}(4) + b$

$2 = -2 + b$

$4 = b$

$y = -\frac{1}{2}x + 4$

6) passes thru (-5, -2), and is parallel to the line that passes thru (4, -1) & (5, -1)

$m = \frac{-1-(-1)}{5-4} = \frac{0}{1} = 0$

$y = 0x + b$

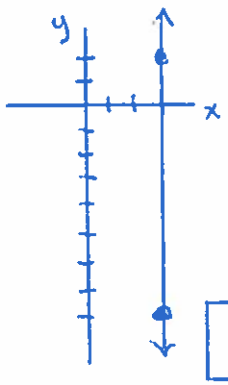
$-2 = 0(-5) + b$

$-2 = 0 + b$

$-2 = b$

$y = 0x - 2$ or $y = 2$

7) passes thru (3, -8) & (3, 2)



$m = \frac{2-(-8)}{3-3} = \frac{10}{0}$

= no slope

(x-only equation)

$x = 3$

8) is perpendicular to the line 3x – 4y = 20 at it's y-intercept

$3x - 4y = 20$

$-4y = 20$

$y = -5$

or $b = -5$

$-4y = -3x + 20$

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

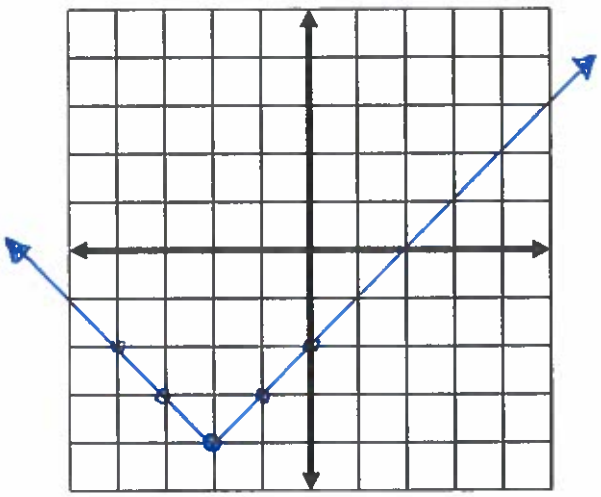
$m = \frac{3}{4}$

$\perp = -\frac{4}{3}$

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

Graph the following absolute value ***equations***. Then, name the domain and range for each. Remember, absolute values make the shape of a V. Also, ***equations*** do not get shaded.

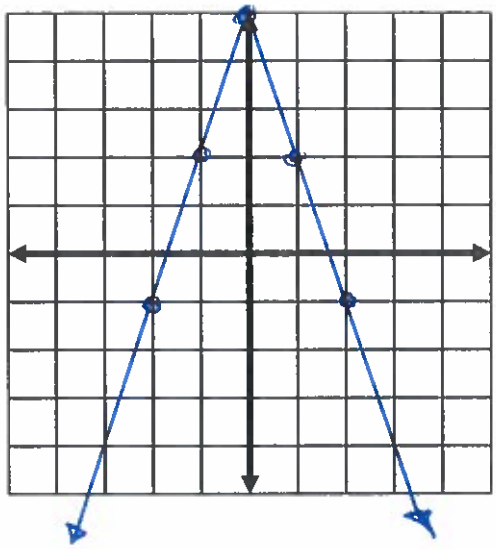
9) $y = |x + 2| - 4$ V(-2, -4) m = 1



Domain: all real no.s

Range: $y \geq -4$

10) $f(x) = -3|x| + 5$ V(0, 5) m = -3

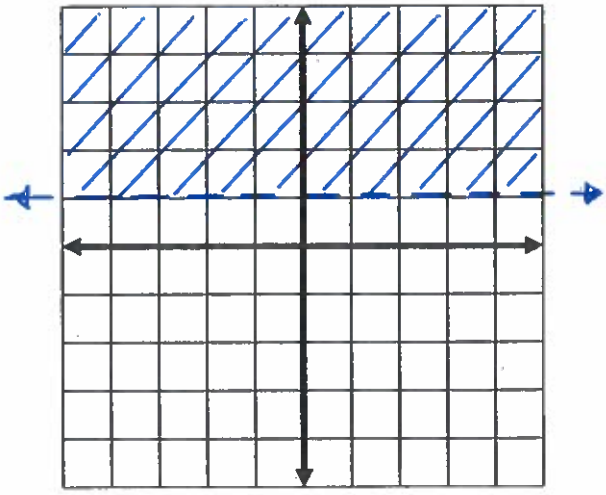


Domain: all real no.s

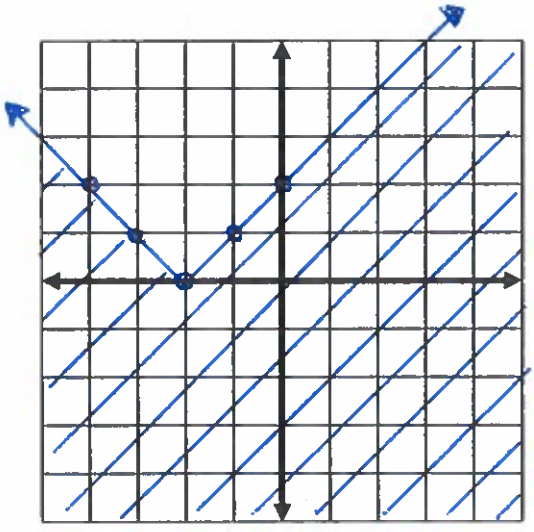
Range: $y \leq 5$

Graph each inequality.

11) $y > 1$ m = 0, b = 1



12) $y \leq |x + 2|$ V(-2, 0) m = 1

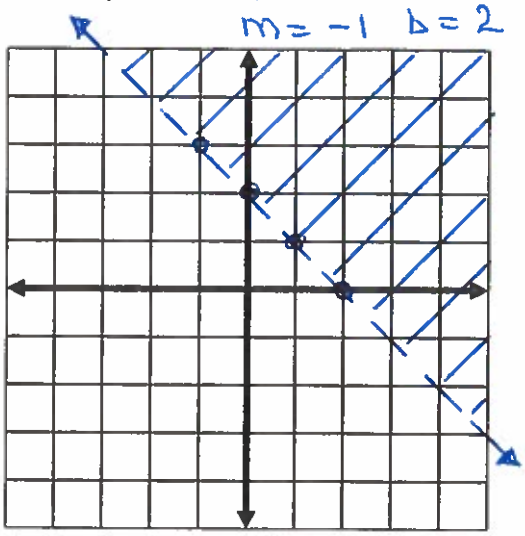


13) $2 - y < x$

$-y < x - 2$

$y > -x + 2$

$m = -1 \quad b = 2$



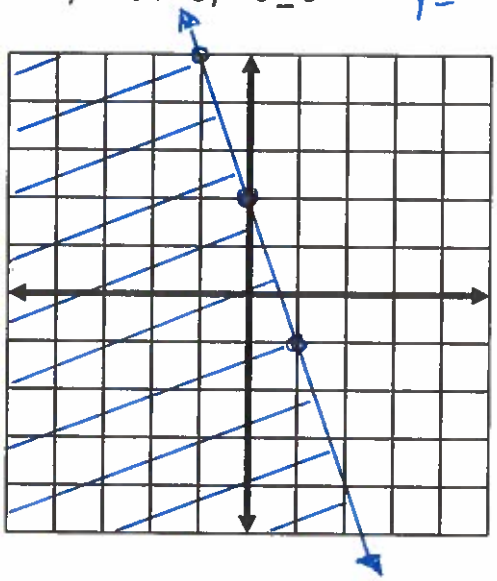
14) $9x + 3y - 6 \leq 0$

$3y = -9x + 6$

$y = -3x + 2$

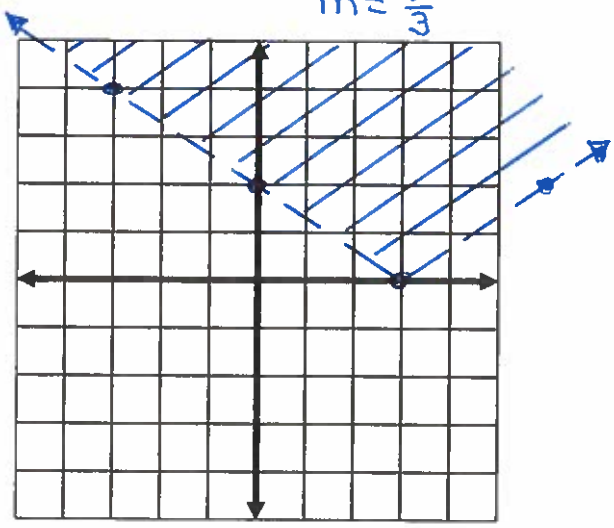
$m = -3$

$b = 2$



15) $f(x) > \frac{2}{3}|x - 3|$ $V(3,0)$

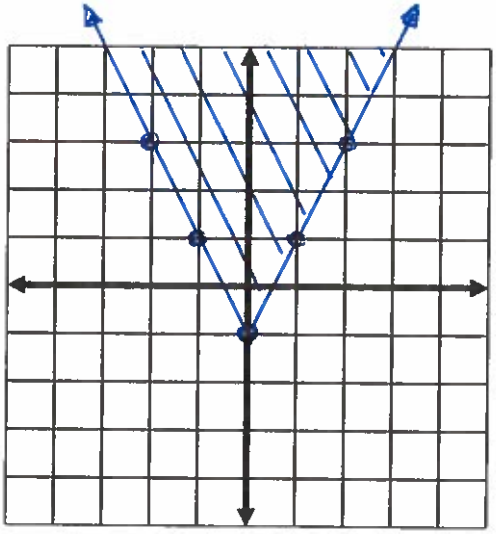
$m = \frac{2}{3}$



16) $y + 1 \geq |2x|$ $y \geq |2x| - 1$

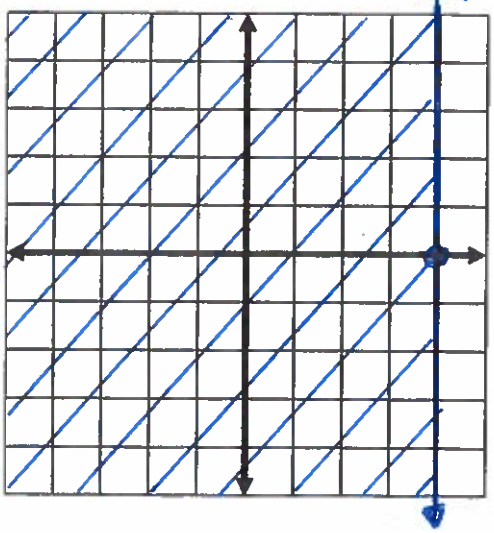
$V(0,-1)$

$m = 2$



17) $-7x - 1 \geq -29$ $-7x \geq -28$

$x \leq 4$ (no slope)



18) $f(x) < -\frac{1}{2}|x - 1| + 3$ $V(1,3)$

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