1. Graph the function with the given domain:

$y = 1/2x + 2$ when $x \leq 3$

x	y
3	$3\frac{1}{2}$
2	3
1	$2\frac{1}{2}$
0	2
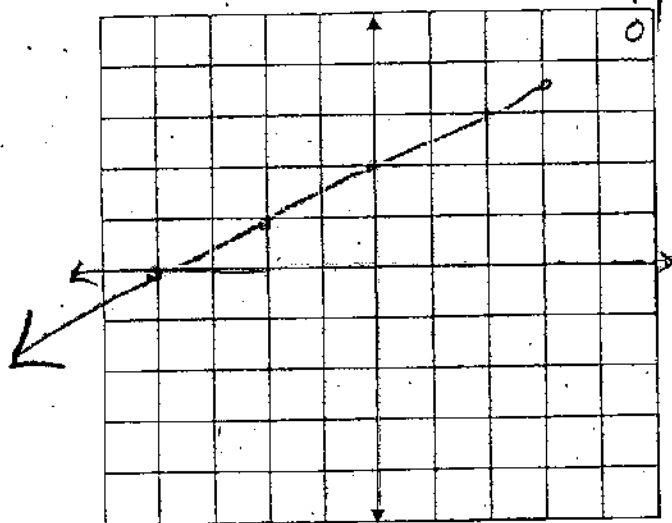
2. Graph: $y = -\frac{1}{2}|x+2| - 3$

vertex: $(-2, -3)$
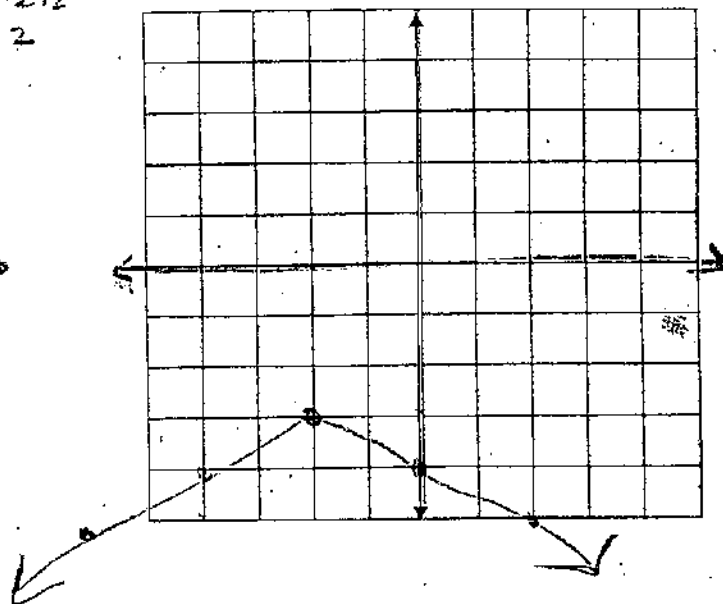
2.) $6x + 15y = 30$ x-intercept = __5__   y-intercept = __2__

3. Find the slope of the line that passes through the points: (3,4) and (3,8)

$$\frac{8-4}{3-3}$$

undefined

4.) $12x - 8y = 60$ slope = __$\frac{3}{2}$__   y-intercept = __$-\frac{15}{2}$__

$$-8y = -12x + 60$$

$$y = \frac{3}{2}x - \frac{15}{2}$$

5. Given that y varies directly with x, write an equation that relates x and y when x = 2 and y = -3

$$y = ax$$

$$-3 = \frac{?}{2}$$

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

6. If $f(x) = -3x^2 - 2x$, find f(-1):

$$f(-1) = -3(-1)^2 - 2(-1)$$

$$f(-1) = -3 + 2$$

$$f(-1) = -1$$

7. Write an equation in Standard Form that goes through (2,3) (-4, 5)

$$\boxed{X + 3y = 11}$$

$$\frac{5-3}{-4-2} = \frac{2}{-6} = \boxed{-\frac{1}{3} = m}$$

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

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

$$3 = -\frac{2}{3} + b \quad \boxed{b = \frac{11}{3}}$$

$$\left[y = -\frac{1}{3}x + \frac{11}{3}\right] \times 3$$
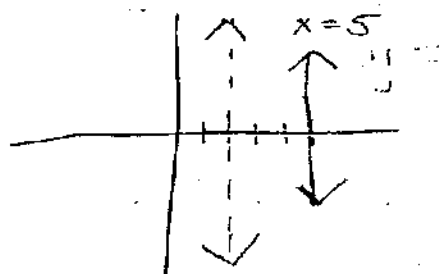
$$3y = -x + 11$$

$$\boxed{x + 3y = 11}$$

or

$$x + 3y = C$$

$$2 + 3(3) = C$$

$$C = 11$$

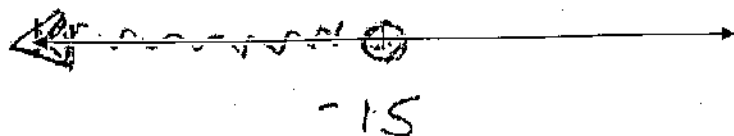8. Write the equation of the line that goes through (2,4) and is parallel to x = 5.

$$\boxed{X = 2}$$

9. Solve the inequality and graph the solution on a number line : $\frac{2}{3}x + 3 \leq -7$
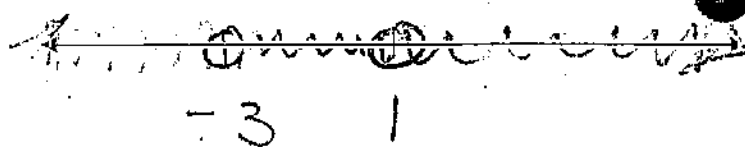
$$\frac{2}{3}x \leq -10$$

$$2x \leq -30$$

$$\boxed{x \leq -15}$$

-15

Solve each compound inequality below. Graph the solution set on the number line provided:

10.. $3x + 4 < 7$ or $12 - 4x < 24$
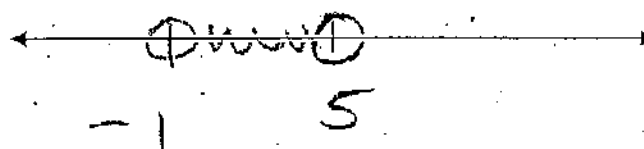
$3x < 3$ $-12 < 4x$

$x < 1$ or $x > -3$

(number line graph, points at -3 and 1)

10. $\mathbb{R}$

11. $-9 < -3x + 6 < 9$

$3 > x - 2 > -3$

$5 > x > -1$

(number line graph, open circles at -1 and 5)

11. $-1 < x < 5$

12. $-2\left|\dfrac{1}{2} - 3w\right| + \dfrac{7}{2} = \dfrac{1}{2}$

$-2\left|\dfrac{1}{2} - 3w\right| = -3$

$\dfrac{1}{2} - 3w = \dfrac{3}{2}$ or $\dfrac{1}{2} - 3w = -\dfrac{3}{2}$

$-3w = 1$ $-3w = -2$

$w = -\dfrac{1}{3}$ $w = \dfrac{2}{3}$

12. $-\dfrac{1}{3}, \dfrac{2}{3}$

13. $-4 \mid 7y + 2 \mid = 32$

13. $\emptyset$

14. I want to make a snack mix of pretzels and Corn Chex. Pretzels come in bags that are 15 ounces and Corn Chex comes in boxes that are 12 ounces. I want my mix to be 300 ounces and I don't want any waste.

a. Write the standard form of an equation that models the possible combinations of boxes and bags to make my mix.

$$15p + 12c = 300$$
$$5p + 4c = 100$$

b. List two possible combinations:

1. ___0___ bags of pretzels ___25___ boxes of Corn Chex

2. ___20___ bags of pretzels ___0___ boxes of Corn Chex

15. If you sign up for a gym membership during the month of May you are charged a joining fee of $99 and a monthly membership of $30 per month.

a. Write an equation that gives you the total cost in dollars of a membership as a function of the number of months of membership if you join in May.

$$y = 30m + 99$$

b. What does the y-intercept represent in this equation?

joining fee

c. Find the cost if you sign up for a 5 month membership.

$249