Name Key Do Now #4

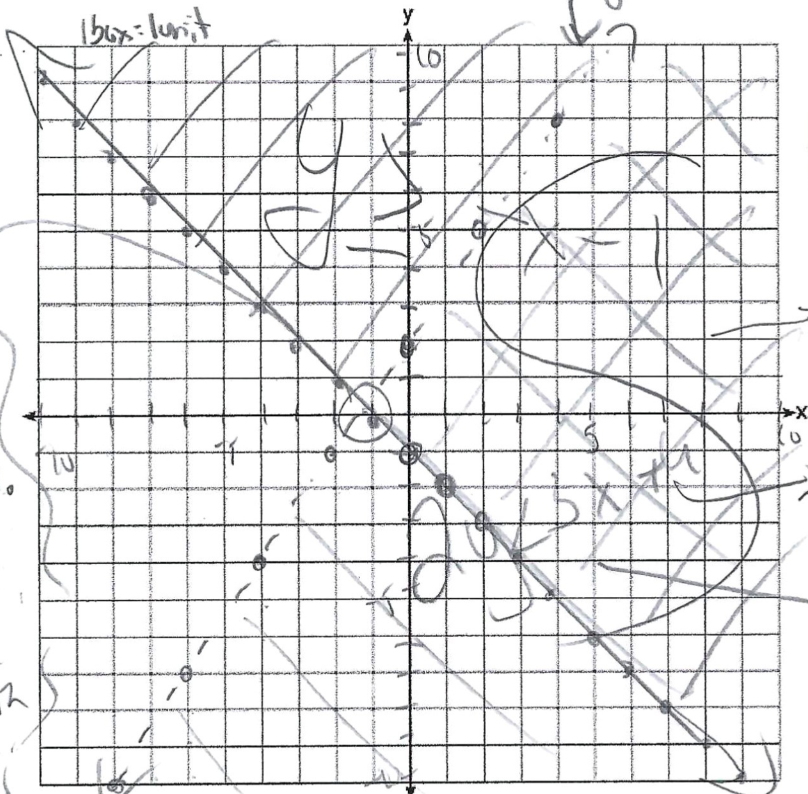
36. Graph the inequalities: $2y < 3x + 4$ and $y \geq -x - 1$

State one point that satisfies both inequalities.

(0,0)

B/c it is In the intersection of the two shaded regions

dotted



S = Solution SET

original

original Inequality MUST be in the shaded area & NOT touching the line.

Even though it is the point of intersection, it is NOT an answer B/c one line is dotted. Dotted means it is NOT equal to and therefore that point would not satisfy both inequalities.

∴ Therefore it is not a solution point

$\frac{2y}{2} < \frac{3}{2}x + \frac{4}{2}$

$y < \frac{3}{2}x + 2$

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

$B = 2$

- dotted
- shade below the y-int.

$y \geq -x - 1$

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

$B = -1$

- solid
- shade above the y-int

$<$ $>$	$\leq$ $\geq$	$<$ $\leq$	$>$ $\geq$
dotted	solid	Shade below the y-int	Shade above the y-int

37.

$$p(x)=\begin{cases} x+3; & -5\le x<-1 \\ x^2; & -1\le x\le 2 \\ -x+4; & 2<x\le 5 \end{cases}$$

2nd

MATH

Given the function $p(x)$ defined as:

a) Find the value of $p(-2)$. $p(x)=x+3$ $p(-2)=-2+3$ $\boxed{p(-2)=1}$

b) Sketch the graph of $p(x)$.

c) At what x-value in the domain does $p(x)$ have its absolute maximum value?

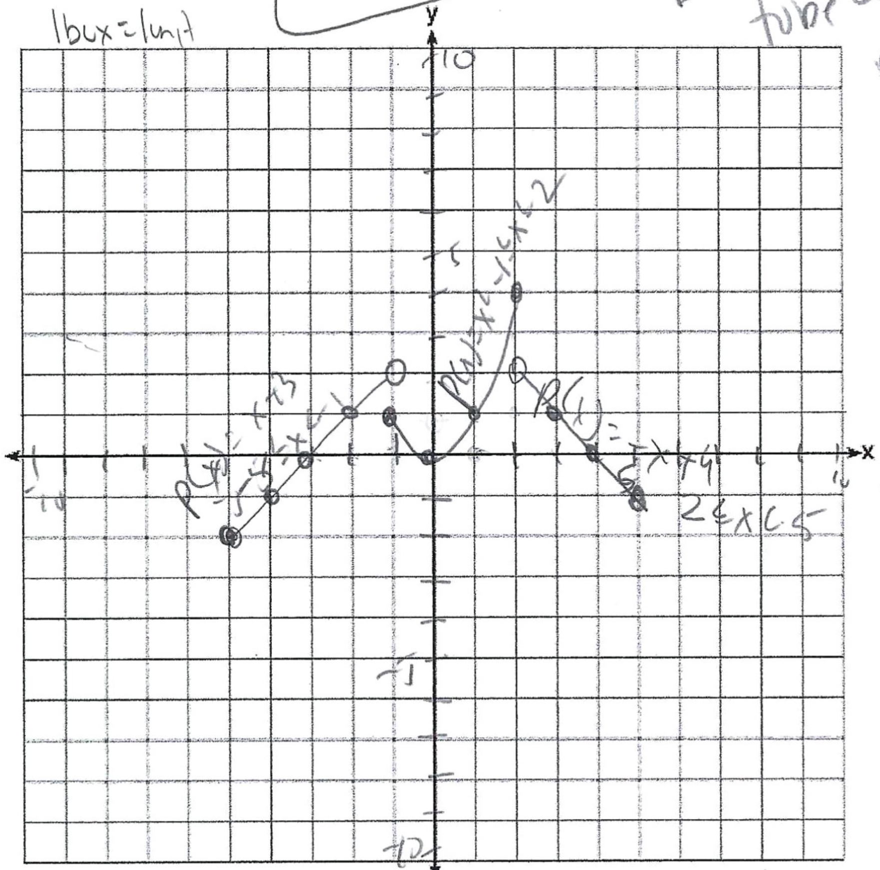
Relative max/min does have to be a turning point

* Can't give the coordinate

$X=2$

Does not have to be a turning point

1 box = 1 unit



1 open and 1 closed = closed dot

$< >$ open

$\le \ge$ closed

$p(x)=x+3$

$-5\le x<-1$

m: $\frac{1}{1}$

B: 3

OR

	X	p(x)
closed	-5	-2
	-4	-1
	-3	0
	-2	1
open	-1	2

$p(x)=x^2$

$-1\le x\le 2$

	X	p(x)
closed	-1	1
	0	0
	1	1
closed	2	4

$p(x)=-x+4$

$2<x\le 5$

m: $-\frac{1}{1}$

B: 4

or

	X	p(x)
open	2	2
	3	1
	4	0
closed	5	-1