

# Notes 12/3

## Warm up

graph:

1.  $3x - 4 < 5$

2.  $-2x + 7 \leq 9$

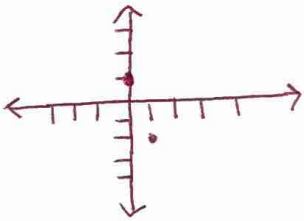
## graphing inequalities

ex 1 graph  $y \geq -3x + 1$

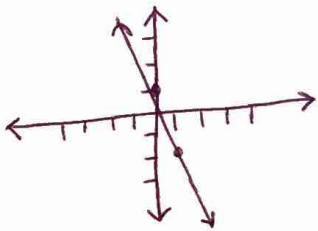
ex 2 graph  $y < -2x + 4$

step 1 is ignore the inequality & graph with an equal sign (just 2 pts)

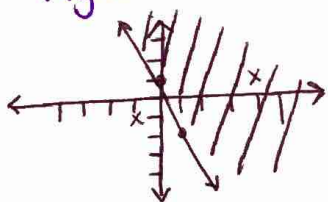
graph  $y = -3x + 1$



step 2 connect the points with a solid line if the inequality is  $\leq, \geq$   
dashed line if the inequality is  $<, >$



step 3 check a point on either side of the line to figure out where to shade



pt: (4, 1)  $1 \geq -3(4) + 1$   
 $1 \geq -11 \checkmark$

pt: (-1, -1)  $-1 \geq -3(-1) + 1$   
 $-1 \geq 4$  no

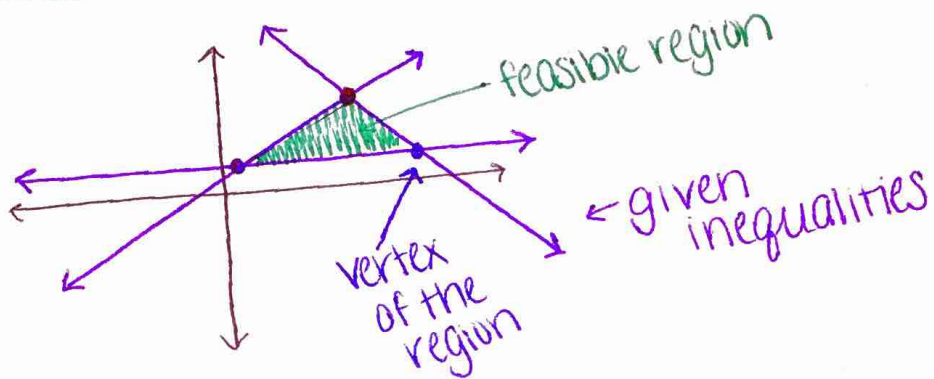
← shade the side with this point.

~~feasible~~

## feasible region

- this when you graph all the given inequalities & see where the shading overlaps.
- the vertices of the feasible region is when the lines intersect.

ex



ex 2 find the feasible region of

$$y = 2x + 1$$

$$y = -\frac{1}{2}x + 5$$

$$y = 2$$