

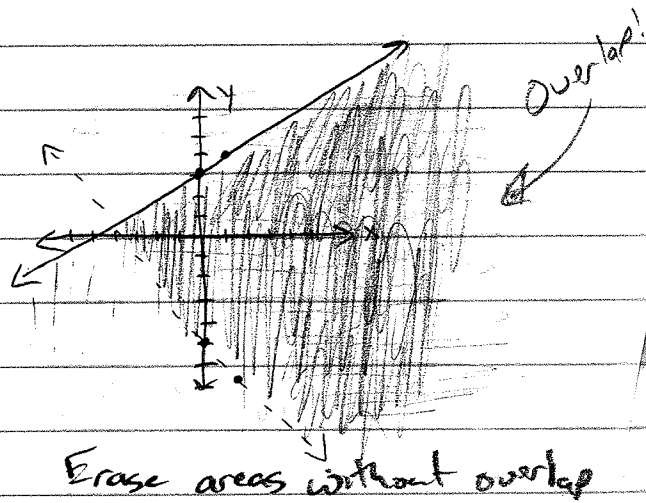
3.3 Graph Systems of Linear Inequalities

Graphing 2 on same grid, looking for common overlap.

Solve

$$y > -2x - 5 \quad \text{Graph each.}$$

$$y \leq x + 3 \quad \text{Find common overlap!}$$



$$y > -2x - 5 \text{ for } (0,0)$$

$$0 > -2(0) - 5$$

$$0 > -5 \quad \text{yup}$$

$$y \leq x + 3 \text{ for } (0,0)$$

$$0 \leq 0 + 3$$

$$0 \leq 3$$

How about

$$3y = -2x + 6$$

$$2x + 3y < 6 \rightarrow \text{intercepts } x=3, y=2$$

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

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

$$y \geq -\frac{2}{3}x + 4$$

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

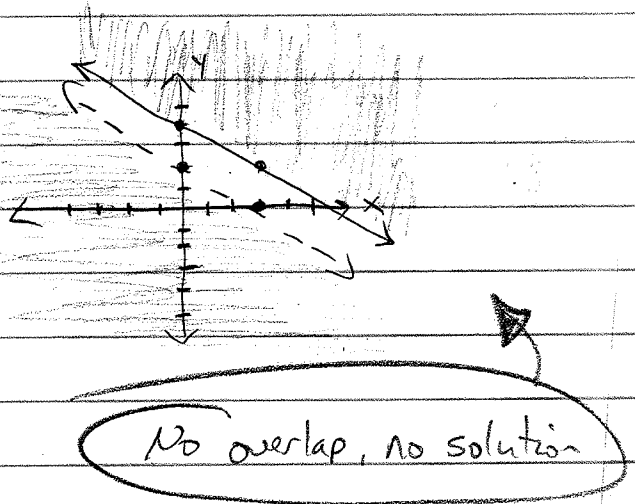
$$2x + 3y < 6 \text{ for } (0,0)$$

$$0 + 0 < 6 \quad \text{yup!}$$

$$y \geq -\frac{2}{3}x + 4 \text{ for } (0,0)$$

$$0 \geq 0 + 4$$

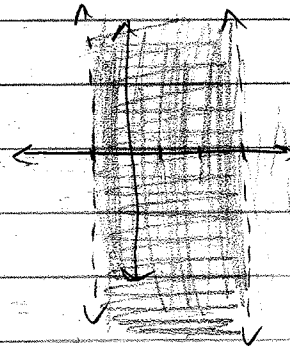
$$0 \geq 4 \quad \text{No}$$



OR

$$x > -1$$

$$x < 3$$



Homework

① $x \leq 2$

$y \leq 5$

② $y \geq 5$

$y \leq 1$

③ $4x - 4y \geq -16$

$-x + 2y \geq -4$

④ $y \geq -x - 3$

$-6x + 4y < 14$

⑤ $x < 6$

$y > -1$

$y < x$