

# Linear Inequalities w/ One Variable.

Ex 1:  $3x - 1 \geq 2x + 2$

Ex 2:  $1 - 2x > 9$

Ex 3:  $\frac{x-1}{2} + 1 > x+1$

Ex 4:  $-\frac{3x}{2} > 9$

Ex 5:  $\frac{4x}{3} - 3 > \frac{1}{2} + \frac{5x}{12}$

Ex 6:  $\frac{x}{2} - \frac{4x}{5} > \frac{3(x-1)}{10} - 2$

Ex 7: Write an inequality that describes:



c)  $(-\infty, -2)$

d)  $(-\frac{1}{2}, 3]$

e)  $[3, 7]$



h)  $-7 \leq x < 7$  or  $x \geq 8$

i)  $(-\infty, 2) \cup [3, \infty)$

# Linear Inequalities in Two Variables.

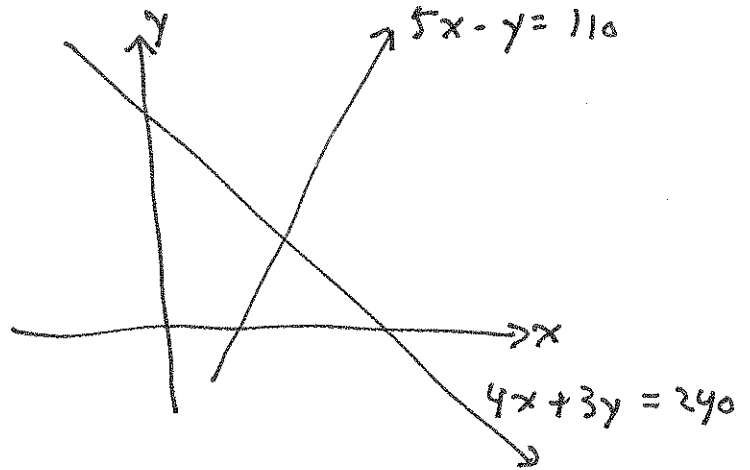
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4.2  
1/1

Ex1: Graph  $y \geq 4x - 5$

Ex2: Graph  $2(x - y) < y + 3$

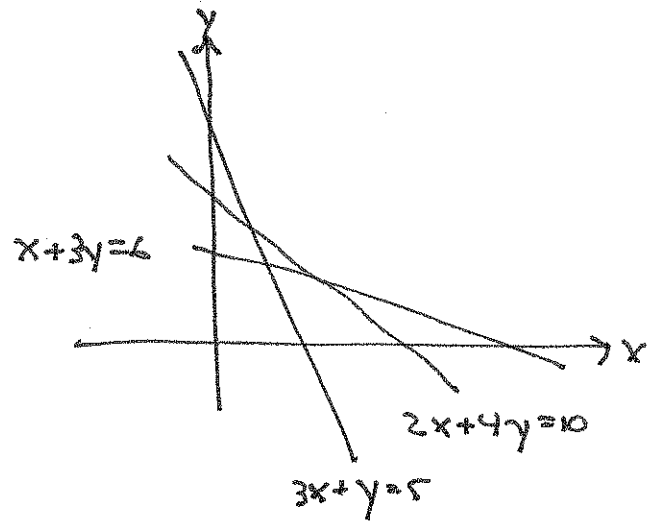
Ex3: Shade the solution Region. & find corners.

$$\begin{cases} 4x + 3y \leq 240 \\ 5x - y \leq 110 \\ x \geq 0 \\ y \geq 0 \end{cases}$$



Ex4:

$$\begin{cases} x + 3y \geq 6 \\ 2x + 4y \geq 10 \\ 3x + y \leq 5 \\ x \geq 0 \\ y \geq 0 \end{cases}$$



Ex5:

$$\begin{cases} y > 3x - 4 \\ y < 2x + 3 \end{cases}$$

Ex6:

$$\begin{cases} y \leq x + 1 \\ y \geq 2x - 1 \\ x \geq 0 \text{ \& } y \geq 0 \end{cases}$$

Ex7:

$$\begin{cases} x + 2y \geq 19 \\ 3x + 2y \geq 29 \\ x \geq 0 \text{ \& } y \geq 0 \end{cases}$$