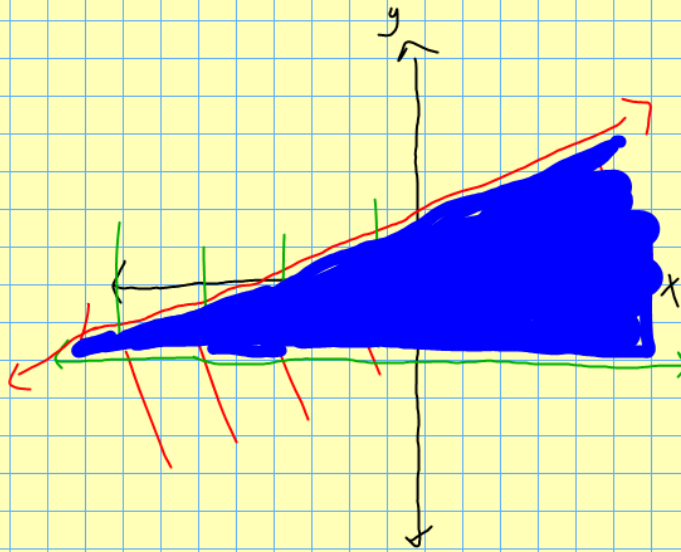


4.5

① $-2x + 4y \leq 8$

$y \geq -2$



a) $-2x + 4y \leq 8$

Graph:

$$\begin{array}{r} -2x + 4y = 8 \\ +2x \quad \quad +2x \end{array}$$

$$\frac{4y}{4} = \frac{8+2x}{4}$$

$$y = 2 + \frac{x}{2}$$

Shade:

$$-2x + 4y \leq 8$$

test: $(0, 0)$

$$-2(0) + 4(0) \leq 8$$

$$0 \leq 8 \text{ true}$$

Shade with
 $(0, 0)$

b) $y \geq -2$

Graph:

$$y = -2$$

Shade:

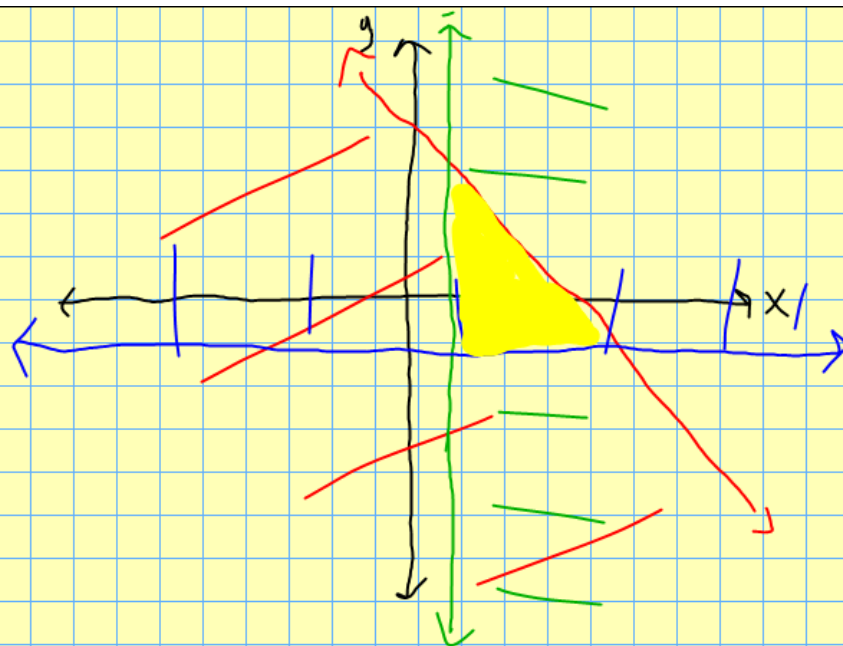
$$y \geq -2$$

②

$$x + y \leq 4$$

$$x \geq 1$$

$$y \geq -1$$



a) $x + y \leq 4$

Graph:

$$x + y = 4$$

$$-x \quad -x$$

$$y = 4 - x$$

Shade:

$$x + y \leq 4$$

test (5, 2)

$$5 + 2 \leq 4$$

$$7 \leq 4 \text{ false}$$

Shade opposite

$$(5, 2)$$

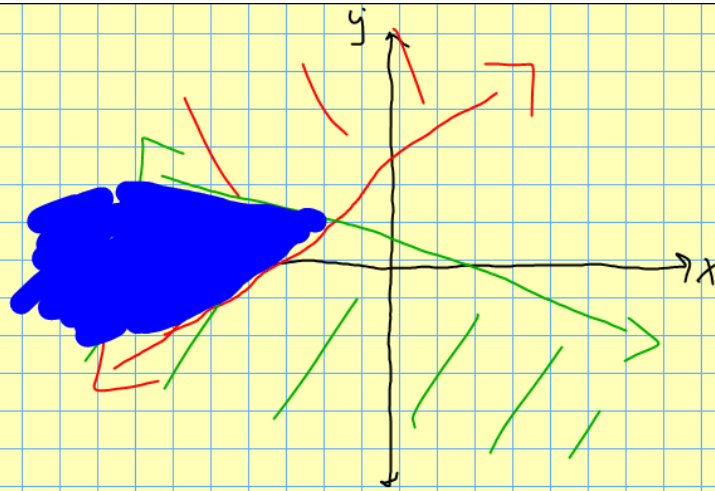
b) $x \geq 1$

c) $y \geq -1$

③

$$y \geq x + 3$$

$$2x + 3y \leq 6$$



a) $y \geq x + 3$

Graph:

$$y = x + 3$$

Shade:

$$y \geq x + 3$$

test $(0, 0)$

$$0 \geq 0 + 3$$

$$0 \geq 3 \text{ false}$$

shade opp.

$$(0, 0)$$

b) $2x + 3y \leq 6$

Graph:

$$2x + 3y = 6$$

$$\frac{3y}{3} = \frac{6 - 2x}{3}$$

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

Shade:

$$2x + 3y \leq 6$$

test $(0, 0)$

$$2(0) + 3(0) \leq 6$$

$$0 \leq 6$$

true

shade with

$$(0, 0)$$