

# Linear Programming

Section 7.6

Maximize

$(2, 1)$

$$z = 3x + 2y$$

$$z = 0 + 0 = 0$$

$$z = 3(1) + 0 = 3$$

$$z = 3(2) + 2(1) = 8 \quad \leftarrow$$

$$z = 0 + 2(2) = 4$$

$$x \geq 0$$

$$y \geq 0$$

$$x + 2y \leq 4$$

$$x - y \leq 1$$

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

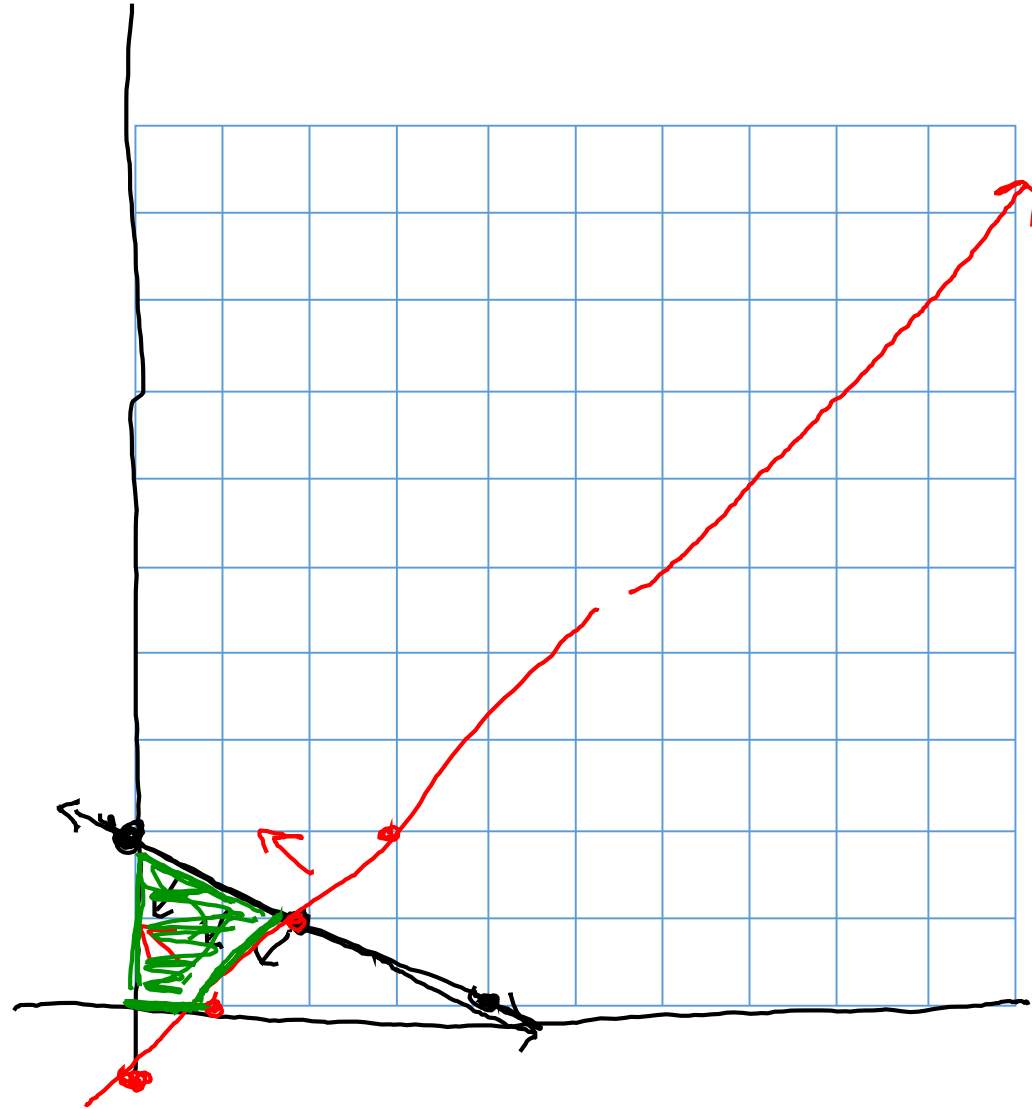
$$y \leq -\frac{1}{2}x + 2$$

m                  b

$$-y \leq -x + 1$$

$$y \geq x - 1$$

$(0, 0)$   $(1, 0)$   
 $(2, 1)$   $(0, 2)$



Maximum value

$$Z = 3x + 7y$$

$$x \geq 0$$

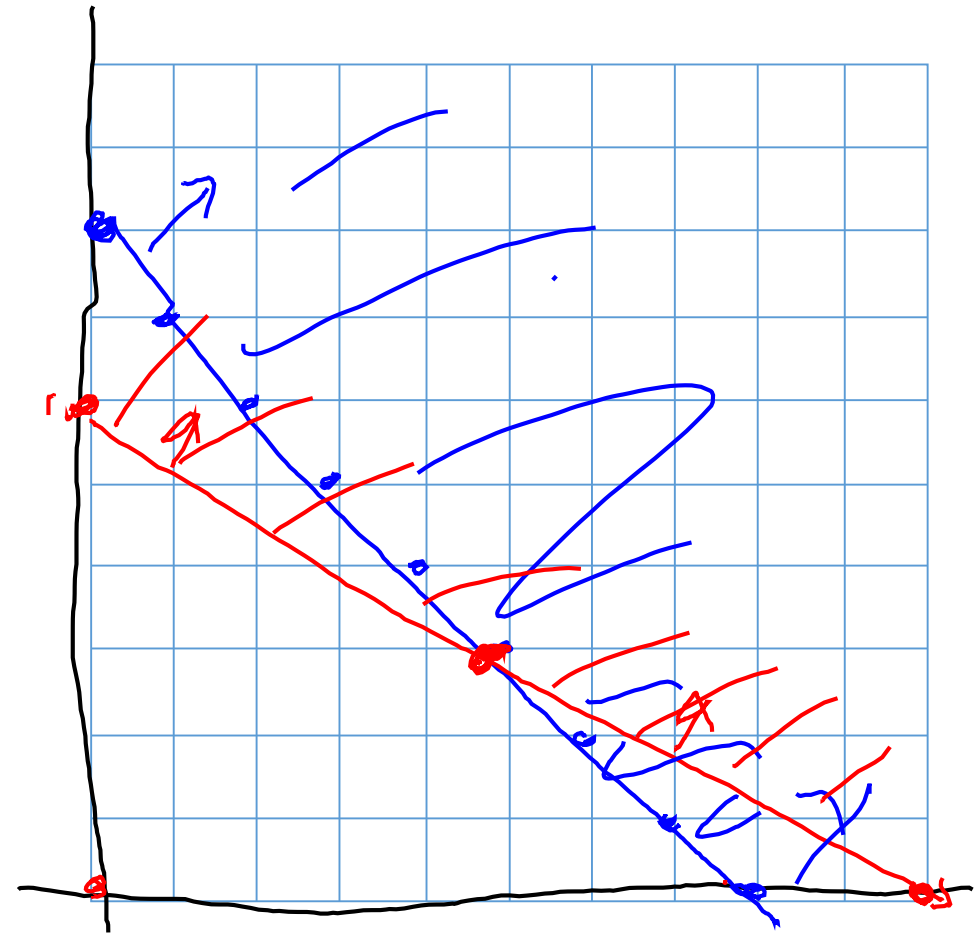
$$y \geq 0$$

$$x + y \geq 8 \quad y \geq -x + 8$$

$$3x + 5y \geq 30$$

$$5y \geq -3x + 30$$

$$y \geq -\frac{3}{5}x + 6$$



Section 7.6 Pg 524: 7 – 15 odd, 37-41 odd