

TH-AZ Algebra 2 Week 15

In North Carolina

x = otter y = monkey

$$5x + 4y \leq 20$$

$$x \geq 0$$

$$y \geq 0$$

$$x = 4 \quad y = 0$$

$$x = 0 \quad y = 5$$

In Tennessee

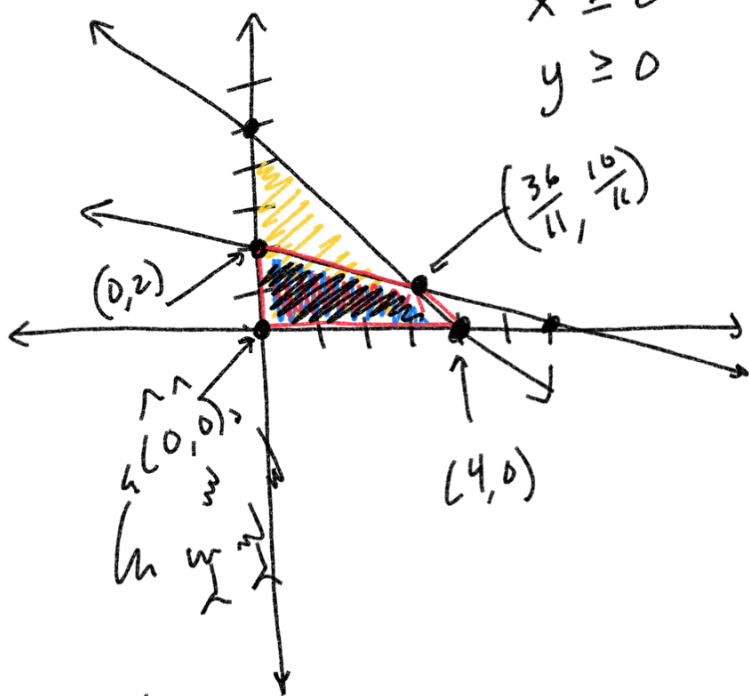
$$2x + 6y \leq 12$$

$$x = 0 \quad y = 2$$

~~$$x + 6y \leq 12$$~~

$$2x + 6y \leq 12$$

$$x = 6 \quad y = 0$$



Max $A = \$5,000x + \$3,500y$

$$5x + 4y = 20$$

$$2x + 6y = 12$$

$$\begin{aligned} 2(5x + 4y &= 20) \\ -5(2x + 6y &= 12) \end{aligned}$$

$$10x + 8y = 40$$

$$-10x - 30y = -60$$

$$\frac{-22y = -20}{-22} \quad \frac{-20}{-22}$$

$$y = \frac{10}{11}$$

$$5x + 4\left(\frac{10}{11}\right) = 20$$

$$5x + \frac{40}{11} = 20$$

$$5x + \frac{40}{11} = \frac{220}{11}$$

$$-\frac{40}{11} \quad -\frac{40}{11}$$

$$x = \frac{36}{11}$$

$$\frac{1}{5}(5x) = \left(\frac{180}{11}\right) \frac{1}{5}$$

$$A = \$5,000x + \$3,500y$$

$$\$5,000(0) + \$3,500(2) = \$7,000$$

$$x = 0 \quad y = 2$$

$$\$5,000(0) + \$3,500(0) = \$0$$

$$x = 0 \quad y = 0$$

$$\$5,000(4) + \$3,500(0) = \$20,000$$

$$x = 4 \quad y = 0$$

$$\$5,000\left(\frac{36}{11}\right) + \$3,500\left(\frac{10}{11}\right)$$

$$x = \frac{36}{11} \quad y = \frac{10}{11}$$

$$\$16,363 + \$3,182 = \$19,545$$

$(4, 0)$

$$\begin{cases} x + y \leq 5 \\ x + 2y \leq 8 \end{cases}$$

$$\boxed{x \geq 0 \quad y \geq 0}$$

1st quadrant

- 1.) Graph both & shade
- 2.) Find vertices of the overlap
- 3.) If floating, find coordinates

4.) Find min/max

Vertices $(0,4)$ $(0,0)$ $(5,0)$ $(2,3)$

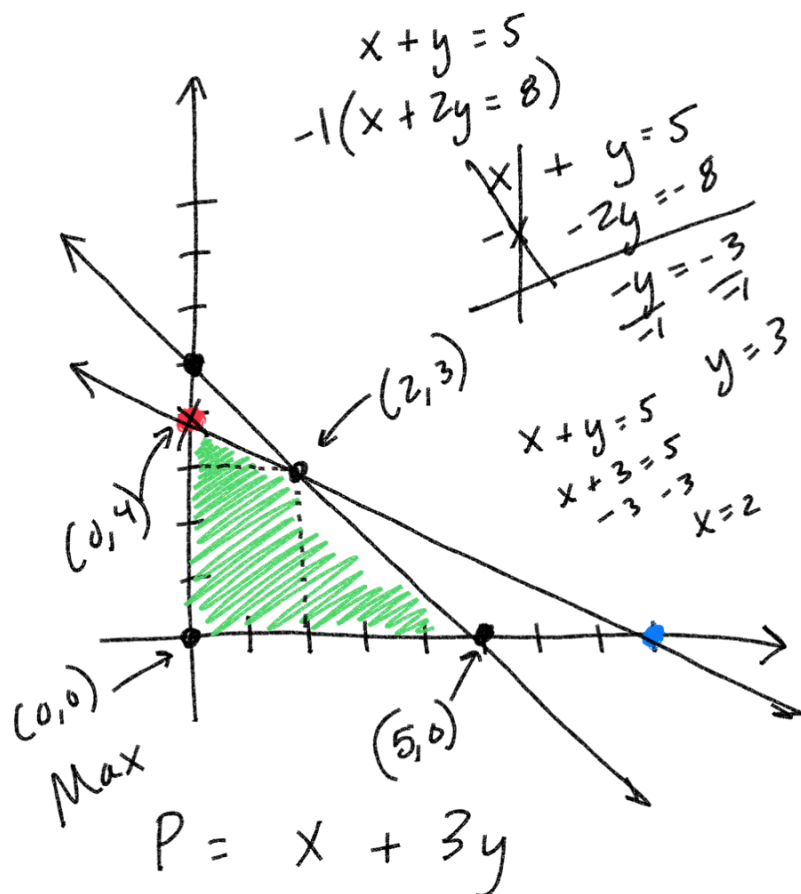
$$P = x + 3y \quad \underline{\underline{\text{Max}}}$$

$$\boxed{(0) + 3(4) = 0 + 12 = 12}$$

$$(0) + 3(0) = 0 + 0 = 0$$

$$(5) + 3(0) = 5 + 0 = 5$$

$$(2) + 3(3) = 2 + 9 = 11$$



$$\begin{aligned} x + 2y &\leq 8 \\ x=0 & \quad y=4 \quad (0,4) \\ x + y &\leq 5 \\ x=5 & \quad y=0 \quad (5,0) \end{aligned}$$

$$\text{Answer} = \boxed{(0,4)}$$

HW
ch 3-4 pg 34
1-6
Online HW 15 } Jan 21st
Quiz 15 }