

HOMEWORK???

p. 252: #1 - 3

p. 248: #4, 6

(b) $x \rightarrow$ # of hrs Sung
 $y \rightarrow$ # of hrs for Faith

$x \in w$ $y \in w$

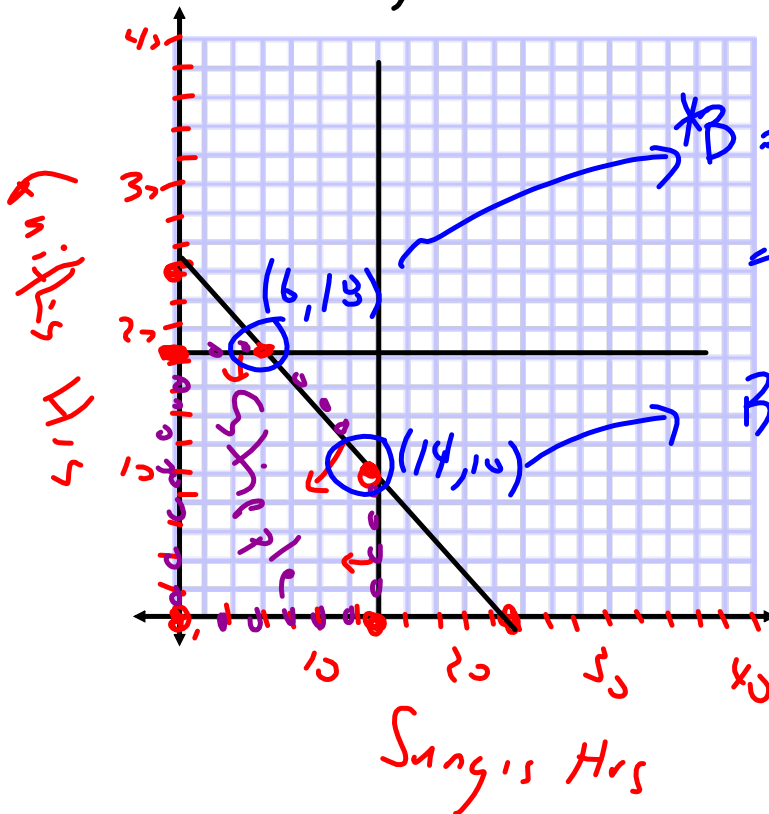
$$x \leq 14$$

$$y \leq 10$$

$$x + y \leq 24$$

$$B = \frac{x}{3} + \frac{y}{4}$$

$x + y = 24$
 $x \text{ int } (24, 0)$
 $y \text{ int } (0, 24)$



$$B = \frac{6}{3} + \frac{19}{4}$$

$$= 6.5 \text{ boats}$$

$$B = \frac{14}{3} + \frac{10}{4}$$

$$= 7.16 \text{ boats}$$

EXAMPLE #1...

The vertices of the feasible region of a graph of a system of linear inequalities are

$(-4, -8)$; $(5, 0)$ and $(1, -6)$. Which point would result in the minimum value of the objective function $C = 0.50x + 0.60y$?

<u>Min</u>	$C = 0.5x + 0.6y$
$(-4, -8)$	$0.5(-4) + 0.6(-8) = -6.8$
$(5, 0)$	$0.5(5) + 0.6(0) = 2.5$
$(1, -6)$	$0.5(1) + 0.6(-6) = -3.1$

EXAMPLE #2...

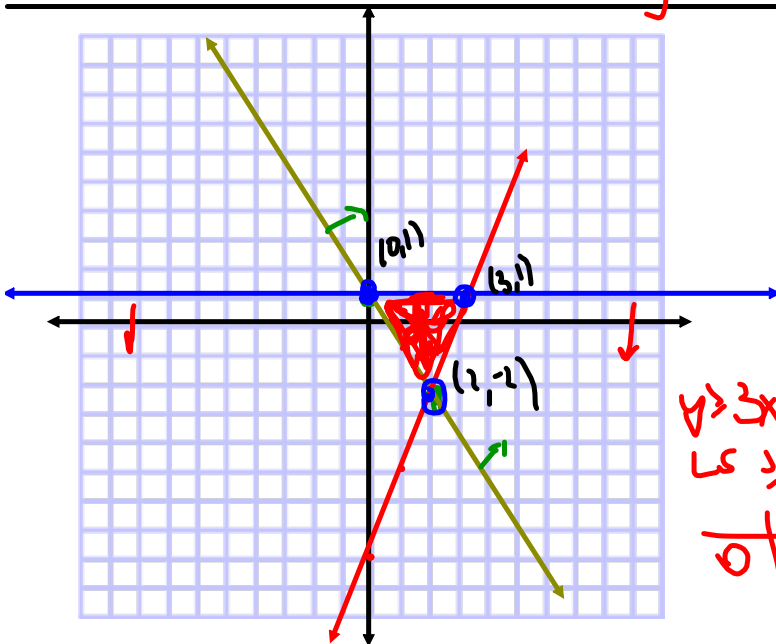
The following model represents an optimization problem. Determine the maximum solution.

Restrictions: $x \in \mathbb{R}$ and $y \in \mathbb{R}$

Constraints: $y \leq 1$; $2y \geq -3x + 2$; $y \geq 3x - 8$

Objective Function: $D = -4x + 3y$

$y = 1$
 $y = 3x - 8$
 $\frac{2y}{2} = \frac{-3x + 2}{2}$
 $y = -\frac{3}{2}x + 1$



$2y \geq -3x + 2$
 $LS \geq RS$

$2(0)$	$-3(0) + 2$
0	2
	No

$y \geq 3x - 8$
 $LS \geq RS$

0	-8
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	$D = -4x + 3y$	
Max	$(0, 1)$	3
	$(3, 1)$	-9
	$(2, -2)$	-14

Practice Questions...

p. 259: #1, 2, 4, 6, 11, 12, 13