HOMEWORK???

p. 261: #1, 2, 4, 6, 11, 12, 13

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

Optimization Model
Restrictions:
$x \in \mathrm{R}$ and $y \in \mathrm{R}$

Constraints:
$x \geq 0$
$y \leq 0$
$3y \geq -2x + 3$
$y \geq 2x - 7$

Objective function:
$D = -5x + 3y$

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

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

$y = 2x - 7$

Q4

CS ≥ RS
0 | 3 No

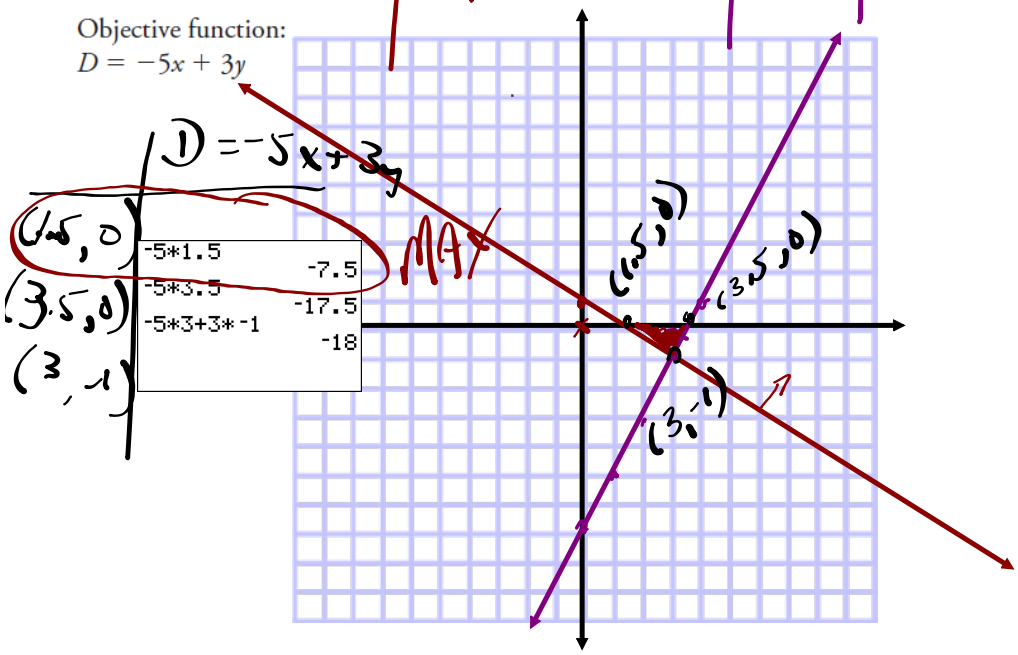
CS ≥ RS
0 | -7 Yes

$D = -5x + 3y$

(1.5, 0)
(3.5, 0)
(3, -1)

-5*1.5 -7.5
-5*3.5 -17.5
-5*3+3*-1 -18

MAX



11. On a flight between Winnipeg and Vancouver, there are business class and economy seats.
- At capacity, the airplane can hold no more than 145 passengers.
- No fewer than 130 economy seats are sold, and no more than 8 business class seats are sold.
- The airline charges $615 for business class seats and $245 for economy seats.

What combination of business class and economy seats will result in the maximum revenue? What will this maximum revenue be?

$R = 245x + 615y$

$x \rightarrow$ # of economy seats $x \geq 130$

$y \rightarrow$ # of business seats $y \geq 0$

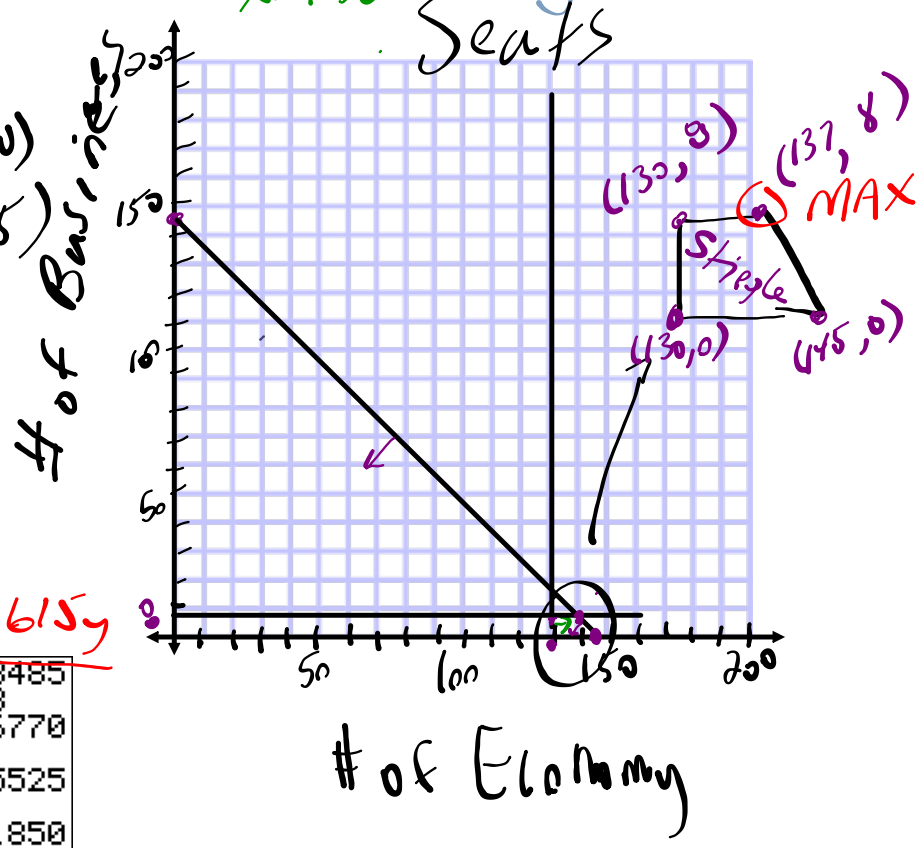
$x + y \leq 145$ $x \geq 130$ $y \leq 8$

$x = 130$

$x + y = 145$

x-int (145, 0)

y-int (0, 145)



$R = 245x + 615y$

(137, 8)	245*130+615*8 → 38485
(130, 8)	245*145 → 36770
(145, 0)	245*130 → 35525
(130, 0)	→ 31850

137 → economy

8 → business

Max $38485

13. Sophie has two summer jobs.
- She works no more than a total of 32 h a week. Both jobs allow her to have flexible hours but in whole hours only.
- At one job, Sophie works no less than 12 h and earns $8.75/h.
- At the other job, Sophie works no more than 24 h and earns $9.00/h.

What combination of numbers of hours will allow her to maximize her earnings? What can she expect to earn?

$E = 8.75x + 9.00y$

$x \rightarrow$ # of hrs at Job #1 $x \in W$

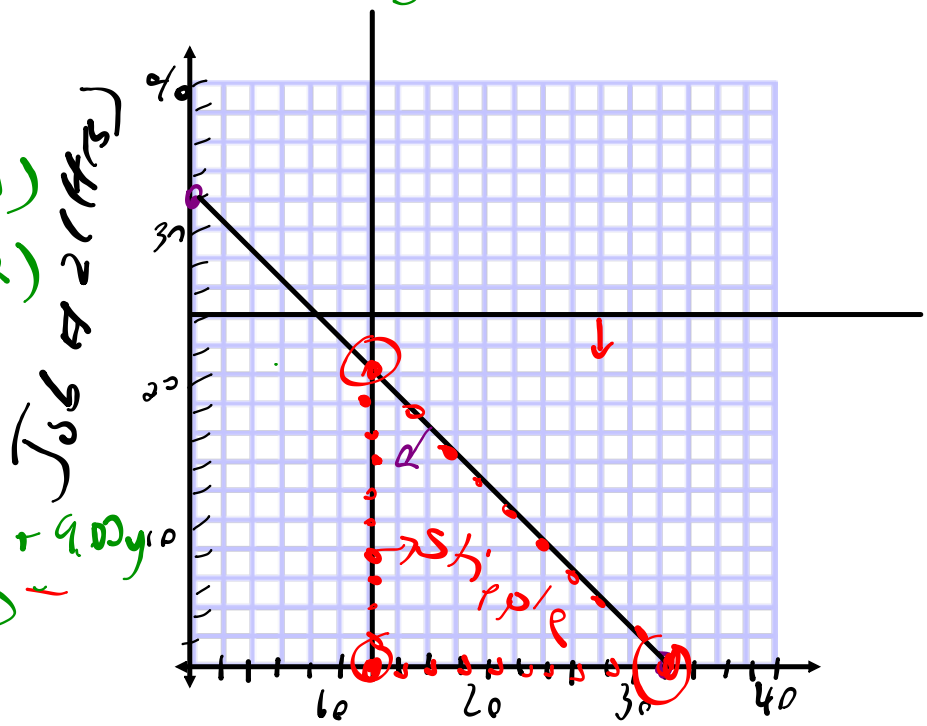
$y \rightarrow$ # of hrs at Job #2 $y \in W$

$x + y \leq 32$ $x \geq 12$ $y \leq 24$

$x + y = 32$

x-int (32, 0)

y-int (0, 32)



Vertex	$E = 8.75x + 9.00y$
(12, 20)	$285
(12, 0)	$105
(32, 0)	$280

Job #1 -> 12 hrs

Job #2 -> 20 hrs

Max Earnings $285

HOMEWORK: Test is on WEDNESDAY!!!

*** CHECK AND CORRECT your quiz...on the website!!!

Review/Practice Questions...

- p. 239: Mid-Chapter Review (Frequently Asked Questions)
- p. 241: Mid-Chapter Practice Questions
- p. 266: Chapter Review (Frequently Asked Questions)
- p. 267: Chapter Practice Questions
- p. 265: Chapter Self-Test (Do this AFTER you practice)

TUESDAY's class will be a Math Help Centre... come prepared with any questions!