HOMEWORK...

Questions?

p. 261: #5, 7, 8, 11, (13)

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?

Variables

x → hours worked @ 8.75/hr

y → hours worked @ 9.00/hr

Restrictions

$x \in W$

$y \in W$

Constraints

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

Graph

Objective

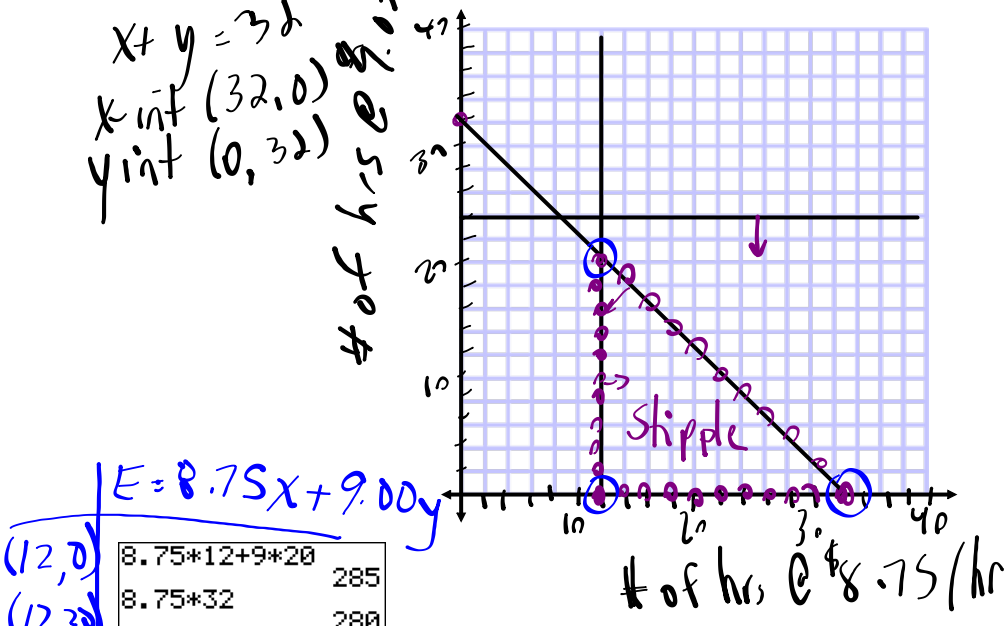
$E = 8.75x + 9.00y$

vertices sub

$x + y = 32$

x int (32, 0)

y int (0, 32)



$E = 8.75x + 9.00y$

(12, 0)

(12, 20)

(32, 0)

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8.75*12+9*20
                285
8.75*32
                280
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WARM UP - use graph paper

e.g., *Problem*: A library is buying both hardcover and paperback books. It plans to purchase at most four times as many paperbacks as hardcover books. Altogether the plan is to purchase no fewer than 200 books. Hardcover books average $35.75 in cost while paperbacks average $12.20. How can the library minimize its costs?

Solution: Let x represent the number of hardcover books. Let y represent the number of paperback books. Let C represent the total cost of the books.

Objective function to minimize: $C = 35.75x + 12.2y$

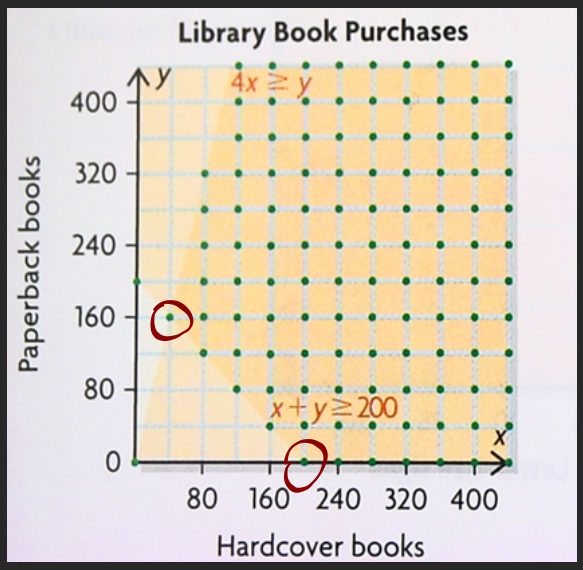
Constraints and restrictions:

$\{(x, y) \mid x + y \geq 200, x \in W, y \in W\}$

$\{(x, y) \mid 4x \geq y, x \in W, y \in W\}$

$y \leq 4x$

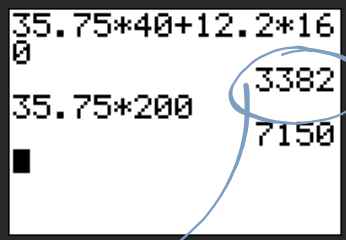
x	y
10	40
20	80



Verifies

(40, 160)

(200, 0)



The library should purchase 40 hardcover books and 160 paperback books, for a total cost of $3382.00.

HOMEWORK: Test is on THURSDAY!!!

*** 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!

MORE PRACTICE...

Review - Graphing Inequations.pdf

Review Solutions.pdf

Attachments

Review - Graphing Inequations.pdf

Review Solutions.pdf