

Friday, September 23rd...PRACTICE for TEST

QUESTIONS?

p. 261: #5, 7, 8, 9, 11, 12, 13

- For each word problem... 1) State Variable & Restrictions  
 2) State Constraints & Objective Function  
 3) Graph constraints to get feasible region  
 4) Use vertices in objective function to get optimal solutions

\*\*\*Whatever you do not finish in class is homework...test next week!

12. A school is organizing a track and field meet.

- There will be no more than 250 events and no fewer than 100 events to be scheduled.
- The organizers allow 15 min for each track event and 45 min for each field event.
- They are considering different combinations of track and field events.

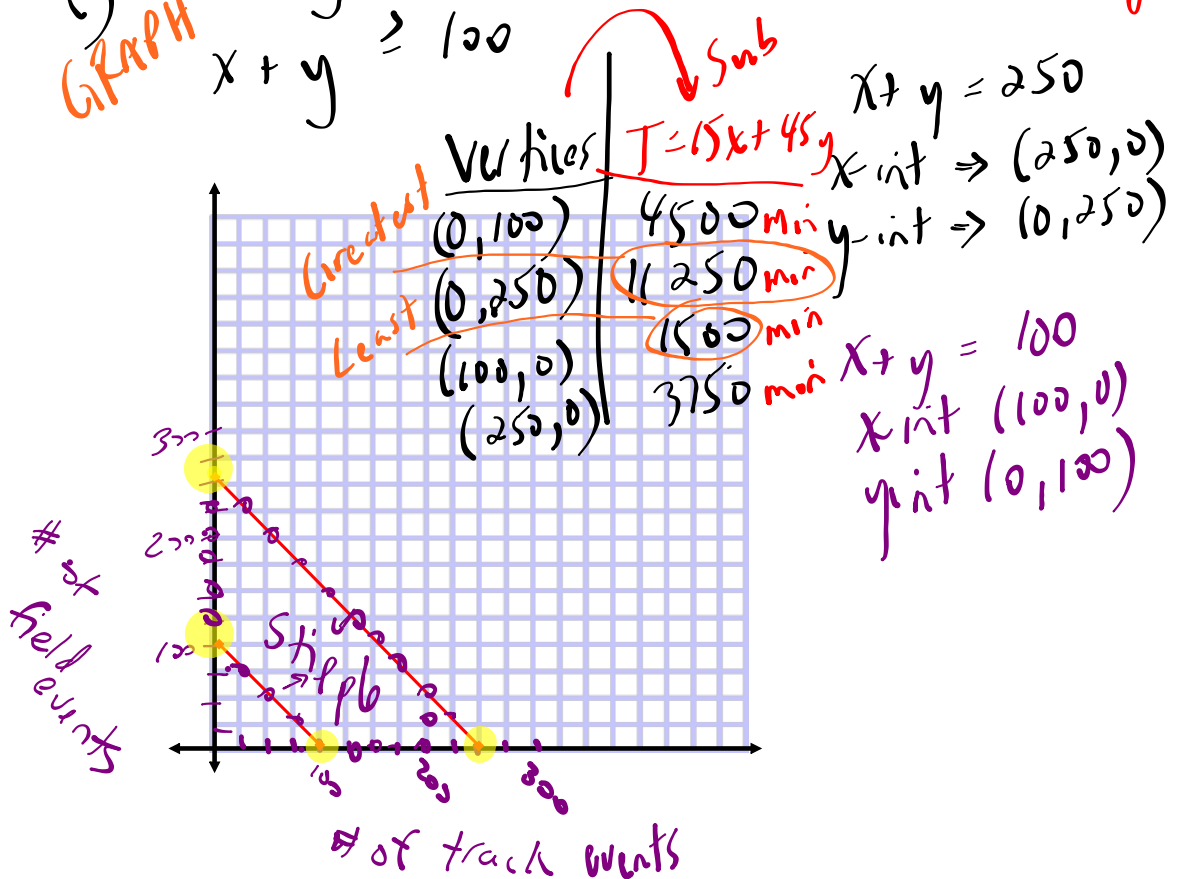
What are the least and greatest amounts of time they should allow?

a)  $x \rightarrow$  # of track events  
 $y \rightarrow$  # of field events  
 $T \rightarrow$  time (minutes)

b)  $x \in W$   
 $y \in W$

c) GRAPH  
 $x + y \leq 250$   
 $x + y \geq 100$

d)  $T = 15x + 45y$



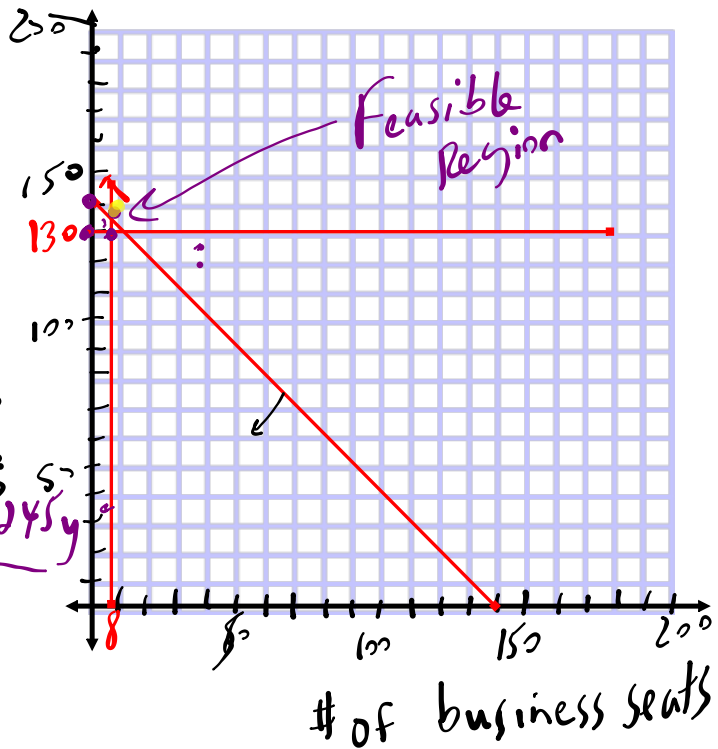
11. On a flight between Winnipeg and Vancouver, there are business class and economy seats.

- 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?

- a)  $x \rightarrow$  # of business class seats  
 $y \rightarrow$  # of economy seats  
 $C \rightarrow$  cost in total
- b)  $x \leq 8$   
 $y \leq 145$
- c)  $x + y \leq 145$   
 $y \geq 130$   
 $x \leq 8$
- d)  $C = 615x + 245y$

$x + y = 145$   
 $x$ -int  $(145, 0)$   
 $y$ -int  $(0, 145)$



vertices  $C = 615x + 245y$

- $(0, 130)$
  - $(0, 145)$
  - $(8, 130)$
  - $x(8, 137)$
- Max

$$615 \cdot 8 + 245 \cdot 137 = 38485$$

# **HOMEWORK: Test is on THURSDAY!!!**

**\*\*\* CHECK AND CORRECT your quiz.**

## **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)