

Math 1313
Homework 3
Section 2.1

Answer questions 1 - 3 for problem number 4 from the book.

1. Give the corners of the feasible set.
 - a. $(0, 0), (0, 4), (4, 0)$
 - b. $(0, 0), (0, 4), (10/3, 4/3), (4, 0)$
 - c. $(4, 0), (10/3, 4/3), (0, 4)$
 - d. $(0, 4), (4, 0),$
 - e. $(10/3, 4/3)$

2. Give the maximum value(part A).
 - a. 24
 - b. 0
 - c. -12
 - d. -2
 - e. No Maximum

3. Give the minimal value(part B)
 - a. 24
 - b. 0
 - c. -12
 - d. -2
 - e. No Minimum

Answer questions 4 - 6 for problem number 12 from the book.

4. Give the corners of the feasible set.
 - a. $(0, 4), (0, 8), (6, 0), (4, 0)$
 - b. $(4, 0), (3, 2), (6, 0)$
 - c. $(0, 4), (0, 8), (3, 2)$
 - d. $(0, 0), (0, 4), (3, 2), (4, 0)$
 - e. $(0, 0), (0, 4), (0, 8), (3, 2), (4, 0), (6, 0)$

5. Give the maximum value(part b).
 - a. 160
 - b. 80
 - c. 61
 - d. 28
 - e. 42

6. Give the minimal value(part c)
 - a. 61
 - b. 0
 - c. 42
 - d. 80
 - e. 28

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Use the following problem to answer questions 7 and 8.

$$\text{Min } P = 5x + 5y$$

$$6x + 3y \leq 24$$

$$3x + 6y \geq 30$$

$$x, y \geq 0$$

7. Give the corners of the feasible set.

- a. (0, 0), (0, 8), (10, 0)
- b. (0, 0), (0, 5), (4, 0), (2, 4)
- c. (0, 0), (0, 5), (10, 0)
- d. (0, 8), (0, 5), (2, 4)
- e. (4, 0), (2, 4), (10, 0)

8. Give the optimal solution.

- a. 40
- b. 50
- c. 25
- d. 20
- e. 30

Use the following problem to answer questions 9 - 10.

$$\text{Max } P = 20x + 30y$$

$$3x + 6y \leq 4800$$

$$3x + 4y \leq 3600$$

$$3x + 2y \leq 2700$$

$$x, y \geq 0$$

9. Give the corners of the feasible set.

- a. (0, 1350), (550, 525), (400, 600), (0, 900)
- b. (0, 0), (0, 800), (550, 525), (900, 0)
- c. (400, 600), (550, 525), (600, 450)
- d. (550, 525), (600, 450), (0, 1200), (0, 1600)
- e. (0, 0), (900, 0), (600, 450), (400, 600), (0, 800)

10. Give the optimal solution.

- a. 26000
- b. 25500
- c. 26750
- d. 18000
- e. 24000