

Reading Assignment: Textbook Chapter 4

### Exercises

(1) 4.2

(2) 4.3

(3) 4.4

(4) 4.5

(5) 4.6

(6) Consider the following linear programming problem

$$\begin{array}{ll} \text{Min} & -40x_1 - 30x_2 \\ \text{s. t.} & \\ & x_1 + x_2 \leq 40 \\ & 2x_1 + x_2 \leq 60 \\ & x_1 \leq 20 \\ & x_1, x_2 \geq 0 \end{array}$$

Construct the primal basic solution and dual basic solution corresponding to each basis. Remember to draw a graph highlighting the connections between primal and dual problems.