

- [10] **5.** Consider our usual LP: maximize $4x_1 + 5x_2$ subject to $x_1 + 2x_2 \leq 8$, $x_1 + x_2 \leq 5$, $2x_1 + x_2 \leq 8$, and $x_1, x_2 \geq 0$. Write the slack variables for this linear program, and write down the dual linear program and dual slack variables.

Check to see if the following are optimal solutions to the primal linear program using complementary slackness:

(a) $x_1 = 3, x_2 = 2$;

(b) $x_1 = 2, x_2 = 3$;