

Last name _____

First name _____

LARSON—OPER 731—CLASSROOM WORKSHEET 01
Linear Programming

1. Consider the *primal* LP:

Maximize the objective function: $z = 3x_1 + 2x_2$ subject to the constraints:

$$x_1 + 2x_2 \leq 4$$

$$x_1 - x_2 \leq 1$$

$$x_1 \geq 0$$

$$x_2 \geq 0$$

$$x_1, x_2 \in \mathbb{R}$$

Solve the primal LP.

2. Find the dual of this LP.

3. Solve the dual.

4. Prove that your solution of the primal is indeed optimal.