

Last name _____

First name _____

LARSON—OPER 731—CLASSROOM WORKSHEET 13
Duality!

Concepts

- (Sec. 2.4) *basis, basic variable, nonbasic variable, basic solution, basic feasible solution, canonical form.*
- (Sec. 2.8) *hyperplane, halfspace, line, line segment, convex, polyhedron, tight inequality, extreme point.*
- (Sec. 3.1) *dual LP, Weak duality theorem.*

1. (**Homework:**) Find the extreme points of the n -dimensional hypercube:

$$\{x \in \mathbb{R}^n : 0 \leq x_i \leq 1\}.$$

2. What is the *Strong Duality Theorem*?

3. Find the (weighted) shortest-path IP.



