Assignment #3 for **Mathematics for Economists**
Economics 392M.8, Fall 2013

Due date: Mon. Sept. 23.

Readings: Chapters 4.1, 4.2, and 4.3 as well as parts of 5.1

Problems

A. Read Chapter 4.1 omitting 4.1.f. The terms that should become familiar in the process of covering Chapter 4 include: metrics, sequences, convergence, completeness, open sets, closed sets, continuity, and compactness.

B. Read Chapter 4.2, which is about a special kind of space called a discrete space. Your job here is to find where each of the previous terms enters and what it means in this special class of spaces. We will return to the appropriate part of Chapter 4.2 every time we begin to prove some of the critical results about $\mathbb{R}^\ell$.

C. Read Chapter 5.1a, b, and c. The terms that should become familiar include: convexity, half-spaces, and orthogonality.

D. **From Chapter 4.3**: 4.3.6 (p. 116)

E. **From Chapter 4.3**: 4.3.11 (p. 118)

F. **From Chapter 4.3**: 4.3.15 (p. 120)

G. **From Chapter 5.1**: 5.1.14 and 15 (p. 177)