Homework 12
(due Friday, Dec 5)

Warmup (don't turn in).

5.4: 3, 4
5.5: 1b, 4, 7, 12bc

Turn in answers only.

5.4: 5, 6

5.5: 1ac, 5, 8 (don't worry about the error sums), 12ad,

Turn in full solutions.

5.4: 13, 20 (Use Lagrange multipliers to do this, of course; show first that it suffices to consider only those points x with $x_1 + \cdots + x_n = 1$), 33 (ignore 32a and don't worry about explaining why the result is believable).

5.5: 2, 3, 13, 16a

Problem 1. Use the existence of orthogonal projections to prove the fact I mentioned in class: if $A\mathbf{x} = \mathbf{b}$ is a consistent linear system, then there is a unique solution $\mathbf{x}$ that lies in the row space of A.

Extra Credit: 3.4.28