MA552. Homework 10

Homework due November 14, 2006

Try to prove Theorem 11.3 in the notes:

Let p be a finite convex functional, defined on a complex linear space L, and let L_0 be a subspace of L. Suppose f_0 is a linear functional on L_0 satisfying the condition

$$(1) \qquad\qquad\qquad |f_0(x)| \leqslant p(x)$$

on L_0. Then f_0 can be extended to a linear functional on L satisfying (1) on the whole space L.