Math 525

Homework due 01/22/03

Reading: Chapter 5 of Royden. Sections 5,6, Chapter 11 form Royden. Sections 1, 2, 4 and 5, Chapter 3 from Folland.

Problems from Royden:

Chapter 5, Section 4: problems 15, 21.

Problems from Folland:

Chapter 3, Section 5: problems 37, 41, 42.

($*$) **Problem:** Let f be a continuous real-valued function on $[0,1]$, and let $g(y)$ be the number of points $x \in [0,1]$ such that $f(x) = y$. Prove that if $g \in L^1$, then f has bounded variation.