Math 524

Homework due 11/12/14

Reading from Folland: Chapter 2: §5, §6 and §7.

Exercises from Folland:

Chapter 2: Section 3, problem 23.

Chapter 2: Section 4, problems 36, 40, 44.

Definition: A function $\Phi : \mathbb{R} \to \mathbb{R}$ is a step function if it can be written as a finite linear combination of characteristic functions of intervals.

Problem 1: Show that step functions are dense in $L^1(\mathbb{R})$.

Problem 2: Show that continuous functions with compact support are dense in $L^1(\mathbb{R})$.