Real Analysis 1, MATH 5210

Homework 8, Section 4.2 Due Friday November 7, 2014 at 1:30

Prove each of the following.

- **Problem 4.9.** Let *E* have measure zero. If *f* is bounded on *E* then *f* is measurable and $\int_E f = 0$.
- Problem 4.11. Prove by example that the Bounded Convergence Theorem does not hold for Riemann integrals.
- **Problem 4.16.** Let f be a nonnegative bounded measurable function on a set E of finite measure. If $\int_E f = 0$ then f = 0 a.e. on E.