

PROBLEM SET #2

1. Stein and Shakarchi, page 39, problem 5. Hint for part (b): the complement of a “Fat cantor set” in $[0, 1]$ is open and bounded.
2. Stein and Shakarchi, page 39, problem 8 (linear transformations map measurable sets to measurable sets).
3. Stein and Shakarchi, page 42, problem 16 (Borel-Cantelli Lemma). We’ll discuss the probabilistic interpretation of the Borel-Cantelli lemma in class.