

Homework 5

Real Analysis

Math 212a – Harvard University – Fall 1998

Due Friday, 23 October 1998

Royden:

Chapter 5: 1, 7, 10, 11, 12, 13, 15, 16, 18, 20.

1. Let $S^1 = \mathbb{R}/\mathbb{Z}$ and define $f : S^1 \rightarrow S^1$ by $f(x) = 2x \bmod 1$. Show that if $E \subset S^1$ has positive measure, and $f(E) \subset E$, then $m(E) = 1$.