

Homework 2

Functional Analysis

1. (a) Prove that a TVS space X is normable (topology is given by a norm) if and only if it has a convex bounded neighborhood of zero

(b) Prove Proposition 5 from the Notes on Distributions.

2-4. Exercises 1-3 from Stein-Shakarchi IV, Chapter 3, section 4, pages 145-146.

5-7. Exercises 7-9 from Stein-Shakarchi, same chapter, pages 146-147.