

PROBLEM SET #7

1. Stein and Shakarchi, page 93, problem 18
2. Stein and Shakarchi, page 93, problem 19. *Hint:* Compute the measure of the set

$$F = \{(x, y) : 0 \leq |f(x)| \leq y\}$$

two ways, using Fubini's theorem.

3. Stein and Shakarchi, page 94, problem 21 (a) - (c). For (a), recall Corollary 3.7 and Proposition 3.9.