

Final takehome, MATH 515, Spring 09

Problem 1) (50 pts) Give the details of the proof of Theorem 4.2. in Lang's book, page 137.

Problem 2) (50 pts) Give the details of the proof of Corollary 5.12 in Lang's book, page 143.

Problem 3) (50 pts) Read IV, §7, page 153-157 in the book. What is the main idea of the proof of Hahn's theorem 7.1. (4.76 in the notes) in a nutshell?

Problem 4) (50 pts) Explain the difference and relation between a μ -measurable function and an integrable function.

Problem 5) (100 pts.) Do a problem of your choice from VI, §10, Exercises, which has not been a homework problem before.