

Additional problems for Homework 4

1. Show by example that the σ -finiteness of μ assumed in the Lebesgue-Radon-Nikodym Theorem is necessary.

2. The decomposition of a signed measure ν by ν^+ and ν^- is constructed in the book (Chapter 6, section 4) by introducing total variation. On the other hand we constructed ν^+ and ν^- by using Hahn decomposition theorem in class. Show that they coincide.