

Math 512, Handout III: Supplementary Information for Chapter 5

Proposition 1: Let E be a measurable subset of \mathbf{R} . Let f be a measurable function on E which satisfies at least one of the following properties:

1. f is simple.
2. f is bounded and vanishes off a set of finite measure.
3. f is nonnegative.
4. f is integrable.

Then $\forall c \in \mathbf{R}$,

$$\int_E f = \int_{E-c} f(x+c)$$