

Errata for *Real Analysis for Graduate Students*,
Version 4.3

Page 33, line 9-11: Replace “For now is continuous.” by the following.

We say that t is a point of increase for an increasing function g defined on \mathbb{R} if $g(s) < g(u)$ whenever $s < t < u$. Note that the Cantor-Lebesgue function is a non-constant, increasing continuous function for which the collection of points of increase is a set of measure zero, namely, the Cantor set.

Page 79, line 11: Step 1

Page 108, Exercise 12.1, line 1: signed measure and A is measurable. Prove that

Page 117, Exercise 13.9: Replace by:

Suppose μ, ν , and ρ are finite signed measures, $\nu \ll |\mu|$, and $\rho \ll |\nu|$. Here $\nu \ll |\mu|$ means that $\nu(A) = 0$ whenever $|\mu|(A) = 0$ and A is measurable. We write $d\nu/d\mu$ for a measurable function g such that $\nu(A) = \int_A g d\mu$ for every measurable A . Prove that $\rho \ll |\mu|$ and that

$$\frac{d\rho}{d\mu} = \frac{d\rho}{d\nu} \cdot \frac{d\nu}{d\mu}$$

almost everywhere with respect to $|\mu|$.

Page 148, line -2: such a function is $c \exp(-1/(1 - |x|^2))\chi_{[0,1]}(|x|)$ for appropriate c ; cf. Exercise 15.29.

Page 150, line 8:

$$\frac{1}{m(B(x, R\varepsilon))}$$

Page 170, Exercise 16.8: On last line change $\frac{\pi}{2}$ to c .

Page 190, line -12: bounded linear map.

Page 325, line 13:

$$\frac{1}{\sigma(\partial B(x_0, r))} \int_{\partial B(x_0, r)}$$

Page 330, line 16:

$$\frac{\partial h}{\partial x_1}(y) dy$$

Page 372, line -9:

$$\sum_{j=0}^n \bar{a}_j P(A^j).$$

Page 382, line -14: $\lambda \neq 0$

Page 384, line 7: Remove the word “symmetric”

Page 387, line 11: is invertible