

**ERRATA TO “REAL ANALYSIS,” 2nd edition**  
(6th and later printings)

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Last updated April 11, 2011.

Additional corrections will be gratefully received at [folland@math.washington.edu](mailto:folland@math.washington.edu).

Page 7, line 12:  $Y \cup \{y_0\} \rightarrow B \cup \{y_0\}$

Page 7, line -12:  $X \in \rightarrow x \in$

Page 8, next-to-last line of proof of Proposition 0.10:  $E \rightarrow X$

Page 12, line 17:  $a \in \mathbb{R} \rightarrow x \in \mathbb{R}$  (two places)

Page 14, line 16:  $x \in X \rightarrow x \in X_1$

Page 14, line 17: whenever  $\rightarrow$  whenever

Page 22, line 2: subset  $\rightarrow$  subset

Page 24, Exercise 1, line 1: A family  $\rightarrow$  A nonempty family

Page 24, Exercise 3a: disjoint  $\rightarrow$  disjoint nonempty

Page 34, line 1:  $\bigcup_1^n J_j \rightarrow \bigcup_1^m J_j$

Page 35, line -3: open h-intervals  $\rightarrow$  open intervals

Page 37, line -1: countable  $\rightarrow$  countable set.

Page 38, line -4:  $\sum_0^\infty \rightarrow \sum_1^\infty$

Page 40, line 2 of §1.6: 2.7  $\rightarrow$  2.8

Page 45, line 5:  $[\infty, \infty] \rightarrow [-\infty, \infty]$

Page 45, line 8: 2.3  $\rightarrow$  1.2

Page 49, line -8: ineegrals  $\rightarrow$  integrals

Page 56, last line of proof of Theorem 2.27:  $(x, t) \rightarrow (x, t_0)$

Page 60, Exercise 27c:  $\log(b/a) \rightarrow \log(a/b)$

Page 60, Exercise 31e:  $s^2 \rightarrow a^2$

Page 61, line 9: repectively  $\rightarrow$  respectively

Page 66, line -4:  $\bigcap_1^\infty E_n \rightarrow E = \bigcap_1^\infty E_n$

Page 67, next-to-last line of Theorem 2.37:  $\int f^y d\nu \rightarrow \int f^y d\mu$ .

Page 69, Exercise 49a:  $\mathcal{M} \times \mathcal{N} \rightarrow \mathcal{M} \otimes \mathcal{N}$

Page 69, Exercise 50: Either assume  $f < \infty$  everywhere or use the condition  $y < f(x)$  to define  $G_f$ . Also,  $\mathcal{M} \times \mathcal{B}_{\mathbb{R}} \rightarrow \mathcal{M} \otimes \mathcal{B}_{\mathbb{R}}$ .

Page 70, proof of Theorem 2.40, line 2: rectangles  $\rightarrow$  rectangles, which may be assumed bounded,

Page 72, line 5: definitons  $\rightarrow$  definitions

Page 75, line 9:  $\sum_j (x_j - a_j)(\partial g / \partial x_j)(y) \rightarrow \sum_k (x_k - a_k)(\partial g_j / \partial x_k)(y)$

Page 75, line 9: joning  $\rightarrow$  joining

Page 76, line 6:  $\bigcup_1^\infty U_j \rightarrow \bigcap_1^\infty U_j$

Page 76, line -7:  $f \circ G \rightarrow f \circ G |\det DG|$

Page 76, line -5:  $G(\Omega) \rightarrow G(\Omega)$

Page 87, line 3:  $\nu(A_j) > \sum \rightarrow \nu(A_j) \geq \sum$

Page 88, Exercise 6:  $\int f d\mu \rightarrow \int_E f d\mu$

Page 90, line -6:  $f \rightarrow f_j$

Page 102: (3.24) should be interpreted as “ $T_F(b) = T_F(a) + \sup\{\dots\}$ ” in the case  $T_F(b) = T_F(a) = \infty$ .

Page 104, line 7 of proof of Lemma 3.28:  $x_0 < \dots \rightarrow x = x_0 < \dots$

Page 104, line -12:  $\sum_1^n \rightarrow \sum_1^m$

Page 105, line 5 of proof of Proposition 3.32:  $\mu(U_j) < \delta \rightarrow m(U_j) < \delta$

Page 105, proof of Proposition 3.32: The displayed inequalities are valid provided  $F$  is monotone, which may be assumed without loss of generality.

Page 106, line 4: greatest integer less than  $\delta^{-1}(b - a) + 1 \rightarrow$  smallest integer greater than  $\delta^{-1}(b - a)$

Page 107, Exercise 28b:  $\mu_{T_F(E)} \rightarrow \mu_{T_F}(E)$

Page 115, line -12: Propostiion  $\rightarrow$  Proposition

Page 159, next-to-last line of proof of Theorem 5.8: Moroeover  $\rightarrow$  Moreover

Page 165, line 6:  $x \in X \rightarrow x \in \mathcal{X}$

Page 166, line -2 of proof of Theorem 5.14:  $(1 - t)x + (1 - t)z \rightarrow (1 - t)x - (1 - t)z$

Page 166, line -1:  $U_{x\alpha_j\epsilon_j} \rightarrow U_{0\alpha_j\epsilon_j}$

Page 167, line 3:  $p_{\alpha_j}(y) < \epsilon \rightarrow p_{\alpha_j}(y) \leq \epsilon$

Page 167, bulleted item at bottom (continuing to next page):  $\mathbb{C}^X$  should be replaced by the space of locally bounded functions on  $X$ , i.e., the space of all complex-valued functions  $f$  on  $X$  such that  $p_K(f) < \infty$  for all  $K$ .

Page 174, line 2: paralellogram  $\rightarrow$  parallelogram

Page 174, lines -8 and -4:  $\mathcal{X} \rightarrow \mathcal{H}$

Page 177, line 1:  $e_\alpha \rightarrow u_\alpha$  and  $\mathcal{X} \rightarrow \mathcal{H}$

Page 179, next-to-last line of notes for §5.1: coincides with  $\rightarrow$  extends

Page 197, line -2: on  $(0, \infty)$ ,  $\rightarrow$  on  $[0, \infty)$  such that  $\phi(0) = 0$ ,

Page 208, Exercise 41: For the case  $p = \infty$ , assume  $\mu$  semifinite.

Page 208, Exercise 45, lines 3 and 4:  $T$  is weak type  $(1, n\alpha^{-1})$  and strong type  $(p, r)$  where  $1 < p < n(n - \alpha)^{-1}$  and  $r^{-1} = p^{-1} - (n - \alpha)n^{-1}$ .

Page 210, final sentence: Theorem 6.36 was discovered independently, a little earlier than [51], by D. R. Adams (A trace inequality for generalized potentials, *Studia Math.* **48** (1973), 99–105).

Page 217, lines 7 and 8:  $f \rightarrow f_1$

Page 218, line -5:  $\chi_u \rightarrow \chi_U$

Page 224, line 8: Insert minus signs before the two middle integrals.

Page 224, line -4 of proof of Proposition 7.19:  $(-\infty, N] \rightarrow (-\infty, -N]$

Page 224, Exercise 18, line 1:  $\mathcal{M}(X) \rightarrow M(X)$

Page 225, Exercise 24b:  $\int f d\mu \rightarrow 0$

Page 225, Exercise 24c:  $F(x) \rightarrow 0$

Page 226, line 2 of Proposition 7.21:  $X \otimes Y \rightarrow X \times Y$

Page 229, line -10:  $\mathcal{B}_X \times \mathcal{B}_Y \rightarrow \mathcal{B}_X \otimes \mathcal{B}_Y$

Page 242, line 12:  $\|g\|_{(N+n+1, \alpha)} \rightarrow \|g\|_{(N+n+1, 0)}$

Page 246, Exercise 9: Assume  $p < \infty$ .

Page 247, line 2 of Theorem 8.19:  $\mathbf{T}^n \rightarrow \mathbb{Z}^n$

Page 250, line -2:  $\sum_{|\gamma| \leq |\beta|} \|f\|_{(N+n+1, \gamma)} \rightarrow \sum_{|\gamma| \leq N} \|f\|_{(|\beta|+n+1, \gamma)}$

Page 251, line 4:  $-2\pi a e^{-\pi a x^2} \rightarrow -2\pi a x e^{-\pi a x^2}$

Page 254, line 5:  $\mathbb{Z}^N \rightarrow \mathbb{Z}^n$

Page 254, line 4 of proof of Theorem 8.32: 8.35  $\rightarrow$  8.31

Page 256, line 1: right  $\rightarrow$  left

Page 259, line 9:  $f_2 * \phi_t(\xi) \rightarrow f_2 * \phi_t(x)$

Page 261, line 7:  $e^{-2\pi i \kappa x} \rightarrow e^{2\pi i \kappa x}$

Page 264, line 4:  $e^{2\pi(2m+1)x} \rightarrow e^{2\pi i(2m+1)x}$

Page 268, formula (8.46):  $\frac{1}{2} - x - [x] \rightarrow \frac{1}{2} - x + [x]$

Page 269, line 6:  $S_m(a_j) \rightarrow S_m f(a_j)$

Page 273, line 7: if for all  $\rightarrow$  for all

Page 274, line -1:  $(t^2 + |x|^2)^{-(n+1)/2} \rightarrow (t^2 + |x|^2)^{(n+1)/2}$

Page 276, Exercise 43:  $e^{-|x|/2} \rightarrow \frac{1}{2} e^{-|x|}$

Page 286, line 3:  $\phi(y) \rightarrow \phi(x)$

Page 286, lines -13 and -5, and page 287, lines 1 and 3:  $U \rightarrow V$

Page 288, line -10:  $\psi(\epsilon x) \rightarrow \psi(x/\epsilon)$

Page 289, Exercise 7, line 2:  $f$  agrees  $\rightarrow$  there exists a constant  $c$  such that  $f + c$  agrees

Page 291, Exercise 13:  $f * \psi_t \rightarrow F * \psi_t$

Page 296, line -9:  $x_j \rightarrow \xi_j$

Page 297, line 7: One  $\rightarrow$  On

Page 300, Exercise 28, line 2:  $|\xi|^{\alpha-2} \rightarrow |x|^{\alpha-2}$

Page 303, line 7:  $(1 + |\xi|^2)^s \rightarrow (1 + |\xi|^2)^{-s}$

Page 320, line -1: the the  $\rightarrow$  the

Page 325, Exercise 17, line 2: smaple  $\rightarrow$  sample

Page 325, Exercise 17, line 9:  $X_j - M_j \rightarrow X_j - M_n$

Page 325, line 3 of §10.3:  $e^{(t-\mu)^2/2\sigma^2} \rightarrow e^{-(t-\mu)^2/2\sigma^2}$

Page 326, line -6:  $X_n \rightarrow X_j$

Page 331, line -7:  $\exp(\dots) \rightarrow \exp(-\dots)$

Page 332, formula (10.23):  $\exp(\dots) \rightarrow \exp(-\dots)$

Page 341, proof of Proposition 11.3, line 3: it  $\rightarrow$  if

Page 344, proof of Theorem 11.9, end of line 2: Delete “ $h \in C_c^+$  and”.

Page 349, line 3:  $\mu^*(A) \cup \mu^*(B) \rightarrow \mu^*(A) + \mu^*(B)$

Page 349, line -11:  $B^{2k-3} \rightarrow B_{2k-3}$

Page 358, line 10:  $C(X) \rightarrow C(X)$

Page 358, line -7:  $x_{i_1 \dots i_k} \rightarrow x_{i_1 \dots i_k}$

Page 373, reference 131: of  $\rightarrow$  in

Page 373, reference 139: *in*  $\rightarrow$  *on*

Page 378, line -2:  $CS' \rightarrow S'$