ERRATA TO “REAL ANALYSIS,” 2nd edition  
(6th and later printings)  
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Page 7, line 12: \( Y \cup \{y_0\} \to B \cup \{y_0\} \)
Page 7, line -12: \( X \in \to x \in \)
Page 8, next-to-last line of proof of Proposition 0.10: \( E \to X \)
Page 12, line 17: \( a \in \mathbb{R} \to x \in \mathbb{R} \) (two places)
Page 14, line 16: \( x \in X \to x \in X_1 \)
Page 14, line 17: whenever \( \to \) whenever
Page 22, line 2: \( \text{subset} \to \text{subset} \)
Page 24, Exercise 1, line 1: A family \( \to \) A nonempty family
Page 24, Exercise 3a: disjoint \( \to \) disjoint nonempty
Page 29, Proposition 1.10: The hypothesis that \( X \in \mathcal{E} \) was included only to guarantee that \( \mu^*(A) \) is well-defined for all \( A \subset X \), and with the understanding that \( \inf(\emptyset) = +\infty \), it is unnecessary. The proof extends to the general case without change, as the condition \( \mu^*(\bigcup A_j) \leq \sum \mu^*(A_j) \) is nontrivial only when \( \mu^*(A_j) < \infty \) for all \( j \).
Page 34, line 1: \( \bigcup^n_{j=1} J_j \to \bigcup^m_{j=1} J_j \)
Page 35, line -3: open h-intervals \( \to \) open intervals
Page 37, line -1: countable \( \to \) countable set.
Page 38, line -4: \( \sum_0^\infty \to \sum_{1}^\infty \)
Page 40, line 2 of §1.6: 2.7 \( \to \) 2.8
Page 45, line 5: \( [\infty, \infty] \to [-\infty, \infty] \)
Page 45, line 8: 2.3 \( \to \) 1.2
Page 47, Figure 2.1: The graph of \( \phi_1 \) should have an extra “step” where the ordinate goes from 1 to \( \frac{3}{2} \) and then from \( \frac{3}{2} \) to 2, rather than directly from 1 to 2.
Page 49, line -8: integrals \( \to \) integrals
Page 56, last line of proof of Theorem 2.27: \( (x, t) \to (x, t_0) \)
Page 60, Exercise 27c: \( \log(b/a) \to \log(a/b) \)
Page 60, Exercise 31e: \( s^2 \to a^2 \)
Page 61, line 9: respectively \( \to \) respectively
Page 66, line -4: \( \bigcap_{n=1}^\infty E_n \to E = \bigcap_{n=1}^\infty E_n \)
Page 67, next-to-last line of Theorem 2.37: \( \int f^y \, d\nu \to \int f^y \, d\mu \).
Page 69, Exercise 49a: \( \mathcal{M} \times \mathcal{N} \to \mathcal{M} \otimes \mathcal{N} \)
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: definitions $\rightarrow$ 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 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 77, Exercise 58: $\int \rightarrow \int$

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

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

Page 102: (3.24) should be interpreted as $\mathcal{T}_F(b) = \mathcal{T}_F(a) + \sup\{\ldots\}$ in the case $\mathcal{T}_F(b) = \mathcal{T}_F(a) = \infty$.

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

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: $\mu_{\mathcal{T}_F(E)} \rightarrow \mu_{\mathcal{T}_F}(E)$

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

Page 144, line 12: an LCH $\rightarrow$ a noncompact LCH

Page 146, Exercise 73: In the definition of completely regular algebra, add the condition that the algebra be closed under complex conjugation. Also, in parts (a), (b), and (d), the word “Hausdorff” is redundant since it is incorporated in the definition of “compactification” on p. 144.

Page 146, Exercise 73c: contains $\mathcal{F} \rightarrow$ contains $\mathcal{F}$ and the constant functions

Page 146, Exercise 73d: Insert “(up to homeomorphisms)” after “of $X$”.

Page 159, next-to-last line of proof of Theorem 5.8: Moreover $\rightarrow$ 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: $U_{x\alpha_j \varepsilon_j} \rightarrow U_{0\alpha_j \varepsilon_j}$
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: paraleloogram \( \rightarrow \) parallelogram

Page 174, lines −8 and −4: \( X \rightarrow H \)

Page 177, line 1: \( e^\alpha \rightarrow u^\alpha \) and \( X \rightarrow H \)

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

Page 194, line −3, “simple consequence”: Actually, all the \( y \)-sections of the set \( \{(x, y) : |f(x, y)| > \|f(\cdot, y)\|_\infty \} \) have \( \mu \)-measure 0, and you need Tonelli to deduce that \( \mu \)-almost all the \( x \)-sections have \( \nu \)-measure 0.

Page 204, last line of (6.33): \( C_{p_j}^p \rightarrow C_{q_j}^q \)

Page 206, Theorem 6.36, line 4: \( 1 \leq p < \infty \rightarrow 1 \leq p < q/(q-1) \)

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 225, Exercise 24b: \( \int f \, d\mu \rightarrow 0 \)

Page 226, proof of Theorem 7.20, next-to-last line: \( \pi_1(K) \times \pi_2(K) \rightarrow \pi_X(K) \times \pi_Y(K) \)

Page 227, 4th and 3rd lines before Lemma 7.23: Replace the clause “Exercises 12 and . . . \( \mu \times \nu \)” by “Exercise 12 shows that \( \mu \times \nu(\{0\} \times \mathbb{R}) \neq 0 = \mu \times \nu(\{0\} \times \mathbb{R}) \).” (The semifinite part of \( \mu \times \nu \) disagrees with \( \mu \times \nu \) on \( \{(x, x) : x \in [0, 1]\} \); see Exercise 2.46.)
Page 242, line 12: $\|g\|_{(N+n+1,\alpha)} \to \|g\|_{(N+n+1,0)}$
Page 246, Exercise 9: Assume $p<\infty$.
Page 247, line 2 of Theorem 8.19: $T_n \to Z_n$
Page 248, line 5: $\sum_{|\gamma|\leq |\beta|} \|f\|_{(N+n+1,\gamma)} \to \sum_{|\gamma|\leq N} \|f\|_{(|\beta|+n+1,\gamma)}$
Page 251, line 4: $-2\pi ae^{-\pi ax^2} \to -2\pi axe^{-\pi ax^2}$
Page 254, line 5: $\mathbb{Z}^N \to \mathbb{Z}^n$
Page 300, Exercise 28, line 2: \(|\xi|^{\alpha - 2} \to |x|^{\alpha - 2}\)

Page 303, lines 5–6: Fourier transform is \(\hat{g}(\xi) \to \) inverse Fourier transform is \(g^\vee(\xi)\)

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

Page 309, Exercise 34c: \(\Lambda_a \to \Lambda_\alpha\). Also, apologies for the two conflicting uses of the letter \(\alpha\); one might prefer to replace \(\partial^\alpha\) and \(|\alpha|\) by \(\partial^\beta\) and \(|\beta|\).

Page 320, line -1: the the \(\to\) the

Page 323, line 5: \(\limsup n^{-1}|S_n| < \epsilon \to \limsup n^{-1}|S_n| \leq \epsilon\)

Page 325, Exercise 17, line 2: smaple \(\to\) sample

Page 325, Exercise 17, line 9: \(X_j - M_j \to X_j - M_n\)

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

Page 326, line -6: \(X_n \to X_j\)

Page 331, line -7: \(\exp(\cdots) \to \exp(-\cdots)\)

Page 332, formula (10.23): \(\exp(\cdots) \to \exp(-\cdots)\)

Page 341, proof of Proposition 11.3, line 3: it \(\to\) if

Page 344, proof of Theorem 11.9, end of line 2: Delete “\(h \in C^+_c\) and”.

Page 348, Exercise 9c: In general it is not \(\mu\) that is decomposable but rather its extension \(\overline{\mu}\) to the \(\sigma\)-algebra of \(\mu^\ast\)-measurable sets as explained on p. 215.

Page 349, line 3: \(\mu^\ast(A) \cup \mu^\ast(B) \to \mu^\ast(A) + \mu^\ast(B)\)

Page 349, line -11: \(B^{2k-3} \to B_{2k-3}\)

Page 349, line -7: \(\sum_{n+1}^\infty \to \sum_n^\infty\)

Page 357, Figure 11.1(b): In the bottom figure, the small triangle in the center should not be shaded.

Page 358, line 10: \(C(X) \to C(X)\)

Page 358, line -7: \(x_{i_1 \ldots i_k} \to x_{i_1 \ldots i_k}\)

Page 362, first display: \[\frac{\partial y_i}{\partial x_k} \frac{\partial y_j}{\partial x_l} \to \frac{\partial y_k}{\partial x_i} \frac{\partial y_l}{\partial x_j}\]

Page 373, reference 131: of \(\to\) in

Page 373, reference 139: in \(\to\) on

Page 378, line -2: \(CS' \to S'\)