ERRATA TO “ADVANCED CALCULUS”
(3rd and later printings)
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“line −n” means “line n from the bottom.”

Page 15, line 12: $cx^3 \rightarrow cx^4$
Page 21, line −13: I → L
Page 21, line −12: $x_k \rightarrow x_k$
Page 22, Theorem 1.15b: \{x_k\} sequence → sequence \{x_k\}
Page 26, line 6: \((x_{k-1} - ax_{k-1}^{-1})^2 \rightarrow \frac{1}{4}(x_{k-1} - ax_{k-1}^{-1})^2$
Page 29, Exercise 7, line 1: a → x
Page 31, proof of Theorem 1.22, line 2, and proof of Corollary 1.23, line 3: V → S
Page 45, line 2: Add $f'(a)g'(a)h^2$ to the expression on the right.
Page 61, Example 4, line 2: direction → in the direction
Page 68, Figure 2.3: There should be a line joining y to s.
Page 68, line −9: in S → S
Page 73, line −1: so there → so
Page 74, line 6: going to going to → going to
Page 74, Example 1b, line 1: as as → as
Page 96, line 9: $\mathbb{R} \rightarrow \mathbb{R}^n$
Page 128, line 15: $\mathbb{R}^2 \rightarrow \mathbb{R}^3$
Page 103, line 3: may derived → may be derived
Page 109, proof of Theorem 2.86: The subscript $k$ should be replaced by another letter (since $k$ is already the dimension of the domain of g)
Page 124, Example 8, line 4: that does → whose closure does
Page 126, line −10: parametrically → parametrically by
Page 127: The comma at the end of (3.13) should be a period.
Page 129, line −12: $f(u, v)$, the vectors $\partial_u f(a)$ and $\partial_v f(a)$ → $f(u, v)$ and $a = f(b, c)$, the vectors $\partial_u f(b, c)$ and $\partial_v f(b, c)$
Page 141, line 6: $−x − 2y + z → −3x − 6y + 3z$
Page 150, proof of Lemma 4.5, line 5: $s_Q' f → s_Q' f$
Page 150, proof of Lemma 4.5, line 6: \( s_Q f \rightarrow S_Q f \)

Page 150, line before Theorem 4.6: are easy \( \rightarrow \) easy

Page 162, line -1: \( \int_Z \rightarrow \iint_Z \)

Page 163, line 1: \( R_m \rightarrow R_M \)

Page 163, Corollary 4.23: Replace \( \int \) by \( \iint \) throughout, and in part (a), assume \( g \) is bounded.

Page 166, line 12: \( d^n\delta x \rightarrow d^n x \)

Page 183, Theorem 4.41: Assume that \( \overline{T} \subset U \) (as in Theorem B.24, in order to avoid the possibility that the integral on the right of (4.42) might be improper because \( \det DG \) need not be bounded on \( U \)).

Page 186, line -4, and page 187, line 2: \( \iint_S \rightarrow \iint_R \)

Page 189, line -12: \( \partial_{y_j} \rightarrow \partial_{x_j} \) (two places)

Page 189, Theorem 4.47: Replace the hypothesis “If \( f \ldots \) for each \( y \in S \)” by “If \( f \) and \( \nabla_x f \) are continuous on \( T \times S \”.

Page 193, Exercise 4: To be clear, the integrand is \( [\sin 2(x - y)][g(y)] \).

Page 203, line before (4.64): to define to define \( \rightarrow \) to define

Page 209, line 10: the set \( \rightarrow \) the Lebesgue measurable set

Page 223, lines after (5.15) and (5.16): \( \phi'_1 \) and \( \phi'_2 \) may be allowed to be infinite at the endpoints (so the curves \( y = \phi_j(x) \) may have vertical tangents). Similarly for \( \psi_1 \) and \( \psi_2 \).

Page 223, line after (5.16): \([a, b] \rightarrow [c, d]\)

Page 226, line 7 of Example 2: \(-6\pi \rightarrow -3\pi\)

Page 226, 2nd line after Example 3: as at \( \rightarrow \) as a

Page 227, 4th line before the exercises: (29) \( \rightarrow \) (5.18)

Page 230, line 5: \( G(v) \rightarrow G(u, v) \)

Page 232, line 2: on \( \rightarrow \) in

Page 233, line -3: suface \( \rightarrow \) surface

Page 234, line 3: \( n \cdot dA \rightarrow n dA \)

Page 239, line -3: The piecewise smoothness of \( \phi_1 \) and \( \phi_2 \) can be relaxed so that the surfaces \( z = \phi_j(x, y) \) can have vertical tangent planes.

Page 251, line 10: (5.30) \( \rightarrow \) (5.31)

Page 259, line 8: \( F_j \rightarrow G_j \)

Page 259, first display: \( x + t \rightarrow x_1 + t \)

Page 260, first display: \( \int_{L(a,x)} \) and \( \int_{L(a,x+h)} \) should be switched.

Page 261, line -1: \( 2x + x^2 y \rightarrow 2y + xy^2 \)

Page 263, bottom half: \( +\partial_y \psi(x, y) \rightarrow -\partial_y \psi(x, y) \) (4 places)

Page 265, Proposition 5.65 and the following 2 lines: \( F \rightarrow H \) (6 places)

Page 267, line -8: \( \partial_1 G_{n-1} \rightarrow \partial_{n-1} G_1 \)
Page 269, from (5.67) to line −6: all A’s should be F’s.
Page 272, lines 7 and 13: T(u) → T(u)
Page 272, line 8: x → x and dx_j → dx_m
Page 272, line 12: C_lm(x) → C_lm(x)
Page 272, line −2: C^{(1)} → C^1
Page 273, line 8 R^3 → R^n
Page 277, line 9: Delete the factor of c.
Page 280, line 1: an → to an
Page 289, line 13: m ≥ 0 → m > 0
Page 292, line 5 of Example 7: 5n^3 + 9n^2 + 3 → 5n^3 + 9n^2 + 3n
Page 296, line −3: 1/k → 1/k + 1
Page 304, line −2: 1/2k → 1/√3 k and 16k/25 → 9k/8√3
Page 305, line 7: k > 1/2δ → k > 1/√3 δ
Page 313, line 10: k > 1/2δ → k > 1/√3 δ
Page 327, line 9: f(k) → f^{(k)}
Page 330, line −7: x^{n+1} → x^{n+1}
Page 352, line 6: 7.61 → 7.60
Page 352, line 7: 7.62 → 7.61
Page 363, sketch for Exercise 7: π is the midpoint of the interval where f is negative, not the right endpoint.
Page 368, last line of Exercise 1: 5 → 7
Page 376, line 7: hence f → hence its sum (which is f, assuming f is standardized)
Page 388, line 3: exp → b_n exp
Page 398, Corollary 8.45: L^2(π, π) → L^2(−π, π)
Page 405, line 4 of Section A.1: c x_1 → c_1 x_1
Page 429, line 6: B.9 → B.13
Page 437, first line of last paragraph: region → a region
Page 438: piecewise smooth → C^1
Page 439, line 9: w − φ(u, v) → w + φ(u, v)
Page 441, Section 1.2, 1c: x ≥ 1 → x ≥ 0 and y ≥ 1 → y ≥ 0
Page 442, Section 2.5, 3: 2yz → 2yzt and −4z^4 e^{yz} → +2z^4 e^{yz}
Page 442, Section 2.6, 3a, line 3: 3x cos 3y → 6x cos 3y
Page 445, Section 4.3, 5a: 3/8 → 17/8
Page 446, Section 5.1, 4: $\frac{1}{3} \rightarrow \frac{2}{3}$

Page 447, Section 5.4, 1(a): $y - y^2 \rightarrow y - 2xy$

Page 448, Section 5.8, Problem 2b: $xyz - \frac{1}{2}x^2 - \frac{1}{2}z^2 \rightarrow xyz + \frac{1}{2}x^2 + \frac{1}{2}z^2$

Page 458: Insert entry “inverse mapping theorem, 137”.