

**Misprints for the fourth edition of
“An Introduction to Analysis”**

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NEW FOR FALL 2013

- p. 3, line -8: Replace \mathbf{Z} with $n = 0, \pm 1, \pm 2, \dots$
- p. 57, Exercise 2.3.2: Replace $0 \leq x_1 < 1$ with $0 < x_1 < 1$
- p. 89, line 2: Replace ϵ with ε
- p. 150, Exercise 5.2.1d: Replace $\sqrt{2x + x^2}$ with $\sqrt{2x - x^2}$
- p. 108, Exercise 4.2.7a: Replace $x^{q(m-2)}a$ with $x^{2(m-2)}a^q$ and $xa^{q(m-2)}$ with $x^qa^{q(m-2)}$
- p. 158, line -13: Replace t and dt on the far right side with x and dx
- p. 158, lines 6 and 7: Replace P with \tilde{P}
- p. 324, line 7: Replace \subseteq with $=$
- p. 366, Exercise 10.4.1c: Replace “for some” with “and”
- p. 369, line 17: Replace “Examples 10.36 and 10.38 are both connected” with “Example 10.36 is connected and Example 10.38 is not connected”
- p. 398, lines 8 and 10: replace \mathbf{f} with f twice
- p. 404, line 4: Replace \mathbf{D} with D twice
- p. 405, line -11: Replace $(a + h, b + k), f(a + h, b + k)$ with $(a + h, b + k, f(a + h, b + k))$
- p. 413, line 9: Replace 0 with $\mathbf{0}$
- p. 413, line -10: Replace $D\mathbf{f}(\mathbf{b})(\mathbf{h})$ with $D\mathbf{f}(\mathbf{b})(\varepsilon(\mathbf{h}))$
- p. 413, line -5: Reverse $\mathbf{k} \rightarrow 0$ with $\mathbf{h} \rightarrow 0$
- p. 419, line 4: Replace f with \mathbf{f} three times
- p. 426, line -6: Replace “matrix of coefficients” with “the determinant of the matrix of coefficients”
- p. 432, line 5: Replace $1 - 1$ on Ω_2 with $1 - 1$ on Ω_1
- p. 457, line 9: Replace $j = 1$ with $k = 1$
- p. 458, line 13: Replace Theorem 11.39 with Lemma 11.39
- p. 529, line -1: Replace “smooth. The converse of this statement is false, even for arcs.” with “smooth, but even smooth arcs might have non-smooth parametrizations.”
- p. 547, line -6: Replace $(0, 0, 0)$ with 0
- p. 556, Figure 13.13: Reverse the points $(\pi, -1)$ and $(-\pi, 1)$
- p. 558, line -11: Insert $d(s, t)$ at the end of the line
- p. 560, line -4: Replace “inward” with “outward”
- p. 569, line 8: Replace “the Gauss” with “Gauss”
- p. 569, line -2: There are two missing right parentheses

OLD ERRATA

- (1) p. 3, line -15: Replace $n \in \mathbf{N}$ with $n = 1, 2, \dots$
- (2) p. 7, line -7: insert comma, i.e., replace $\dots - 2$ with $\dots, -2$
- (3) p. 7, line -6: Replace *Zahlen* with *Zahl*

- (4) p. 10, line -2: Replace “and commutativity” with “associativity, and commutativity”
- (5) p. 13, line 11: Replace “Multiplying this inequality by -1 , we conclude that” by “By the Second Multiplicative Property, this is equivalent to”
- (6) p. 14, line 3: Replace “intervals” by “interval”
- (7) p. 15, Exercise 1.2.7d: Replace 1.25 with 1.26
- (8) p. 15, Exercise 1.2.9: Place an a) after 1.2.9. and erase “and Remark 1.1” In part b) add: Using Remark 1.1,
- (9) p. 19, lines 18–20: Replace “If $n = 1$, then...Again,” by “If $n = 1$, then E is empty. When $n = 2$, $k_0 = 1$, and when $n = 3$, $k_0 = 2$. In both cases,”
- (10) p. 20, line 2: Replace “a supremum” by “the supremum”
- (11) p. 20, line -17: insert “and only if” between “if” and “it”
- (12) p. 21, line -1: Add: , provided we use the convention that $-\infty < \infty$.
- (13) p. 22, line -10: delete the article “a” which precedes nonempty
- (14) p. 23, lines -17 and -16: replace “the *Principle of Mathematical Induction*” by “called *the Principle of Mathematical Induction, or the Axiom of Induction*”
- (15) p. 23, line -6: Replace Remark 1.1i by Remark 1.1ii
- (16) p. 25, line 18: replace “over” by “choose”
- (17) p. 32, lines -16 and -15: Replace $\{1\}$ by $\{0\}$ all three times
- (18) p. 34, line -16: delete the “of” at the end of the line
- (19) p. 34, line-9: replace $f(\{0\})$ with $f(\{0\})$
- (20) p. 35, line -17: delete the “in” which occurs between “used” and “several”
- (21) p. 43, line 1: Replace “Remark 2.1” by “Example 2.2ii”
- (22) p. 46, Exercise 2.1.7b: Replace $\{ n \}$ by $\{n\}$
- (23) p. 56, line 16: Replace $0 \leq k$ with $1 \leq k$
- (24) p. 57, Exercise 2.3.3” Erase the “or” which appears before “as”
- (25) p. 60, line -1: Replace $y_n)$ with $y_n)\}$
- (26) p. 64, the statement of Theorem 2.37: Replace “value” by “extended real number” twice and follow “converges” by *or diverges*.
- (27) p. 66, line -2: Add a space between sup and x_k
- (28) p. 73, line -4: Replace *have a limit* by *have limits*
- (29) p. 74, Exercise 3.1.1: Replace “exist” with “exists”
- (30) p. 78, line -6: Replace ∞ with $-\infty$, twice
- (31) p. 80, line 7: Insert “finite” between “for” and “two-”
- (32) p. 82, Exercise 3.2.3 a): Replace “Prove that” with “Using the convention that $0^0 = 1$, prove that”
- (33) p. 82, Exercise 3.2.5: Delete “ $a \in \mathbf{R}$ and” which precedes $f : [a, \infty)$
- (34) p. 84, Definition 3.23: Delete “for every $x \in A$ ”
- (35) p. 89, line 2: Add: , namely, does not satisfy (5) for any $\varepsilon < 1$
- (36) p. 91, Exercise 3.3.6: Replace “nowhere continuous” with “nowhere-continuous”
- (37) p. 104, line 2: End it with a period
- (38) p. 104, Exercise 4.1.0d: Replace $[a, b]$ with $(a, b]$
- (39) p. 104, Exercise 4.1.1b: Replace $a \neq 0$ with $a > 0$
- (40) p. 107, line 1: insert “twice” in front of “differentiable” two times

- (41) p. 108, Exercise 4.2.7a: End the sentence with a period
- (42) p. 111, line -19: Replace “Remark 14.33” with “Remark 14.32
- (43) p. 112, line 11: Insert “the proof of” between “by” and “part i)”
- (44) p. 112, line -10: Replace the first two sentences of the proof by: By symmetry, it suffices to prove part ii). Fix $c \in (a, b]$.
- (45) p. 112, line -2: Replace “i.e.,” with “in particular,”
- (46) p. 113, line 13: Replace $x \in \mathbf{R}$ with $x \in (a, b)$
- (47) p. 113, line 17: Insert “by symmetry” between “there exist” and “ $x_1 < x_2$ ”
- (48) p. 114, line 5: Replace $[-1, \infty)$ with $[0, \infty)$
- (49) p. 115, line 17: Replace “occurs” with “only occur”
- (50) p. 118, equation number (17): Replace \leq with $=$
- (51) p. 118, lines -4 and -3: Replace “denominator” with “fraction” and “in general” with “when the derivatives of f are bounded”
- (52) p. 120, line -16: Insert “be distinct points” between “ $x_k \in I$ ” and “with”
- (53) p. 120, line -9: replace \geq by $>$ and \leq by $<$
- (54) p. 121, line 5: Replace t by y
- (55) p. 122, line -10: Replace $0 \cdot \infty$ by $0 \cdot \infty = -0 \cdot (-\infty)$
- (56) p. 123, line 5: Insert after “In particular,” the phrase “the limit exists by l’Hôpital’s Rule and”
- (57) p. 123, line 7: Replace $x \rightarrow 1$ by $x \rightarrow 1+$
- (58) p. 123, line 11: Insert after “Therefore,” the phrase “the limit exists by l’Hôpital’s Rule and”
- (59) p. 124, Exercise 4.4.5f: Replace $(\log x)$ with $|\log x|$
- (60) p. 126, lines 1 and 2: Replace “we may suppose that” with “since” and delete “hence”
- (61) p. 127, lines 8 and 12: Replace Theorem 4.33 with Theorem 4.32, twice
- (62) p. 130, lines 6, 7, p. 131, line 4, p. 132, line -5, and p. 157, line -9: Insert commas after \dots , e.g., replace $\{x_0, x_1, \dots x_n\}$ by $\{x_0, x_1, \dots, x_n\}$
- (63) p. 145, line 4: Delete: (see Exercise 5.2.4)
- (64) p. 148, line 12: Replace “ ε/M ” by “ ε/M , where $x_0 + \delta < b$ ”
- (65) p. 148, lines -9, -10, and p. 149, lines 3, 10: Replace “an c ” with “a c ”
- (66) p. 149, line -3 Insert “greater than or equal to” between “ M is” and “the maximum value”
- (67) p. 150, line -5: Replace $a + b \neq 0$ by $a \geq 0$
- (68) p. 156, lines -6 and -3: Replace t by x , three times
- (69) p. 156, line -3: Replace the x_j with t_j
- (70) p. 157, line 2: Insert “of” between “sum” and “the”
- (71) p. 157, line 3: Replace \tilde{P} with P
- (72) p. 158, lines 6,7: Replace P with \tilde{P}
- (73) p. 158, line 10” Replace x with t , twice
- (74) p. 161, line 4: Replace ≤ 20 with 12
- (75) p. 162, line -12: Insert “represent the inverse function of L ” between “ L^{-1} ” and “,”
- (76) p. 163, Exercise 5.3.11: Erase lines 8 and 9, and replace “prove that” with “prove

- that f^q is integrable on $[a, b]$ ”
- (77) p. 166, line 3: Replace $[c, b]$ with $[c, b]$
 - (78) p. 166, line -4, and p. 167, line 12: Replace “Theorem 5.43” with “Theorems 5.43 and 5.42”
 - (79) p. 167, line 7: Replace “absolute” with “absolutely”
 - (80) p. 167, line 13: Replace $[a, b]$ with (a, b)
 - (81) p. 168, line 5: Replace $n \in \mathbf{N}$ by $n \in \mathbf{N}, n \geq 2$
 - (82) p. 172, line 2: Replace $= n$ with $\geq n - 1$
 - (83) p. 172, lines -6 and -7: add “ $\Phi(a) = 0$ and”, and replace $[a, x]$ with $(a, x]$
 - (84) p. 174, line -1 and -2: Replace -1 by 0, twice
 - (85) p. 179, line 3: Replace (a, b) with $[0, \infty)$ and erase “Fix $x_1 > x_0$ ”
 - (86) p. 179, line 5: Insert “we can choose $x_1 > x_0$ such that” between “proper minimum” and “ $f(x_1) > f(x_0)$ ”
 - (87) p. 181, line -11: Erase “both $D_L f(x)$ and”, and replace “are” with “is”
 - (88) p. 247, Exercise 7.3.1b: Replace the exponent $2k$ by k
 - (89) p. 311, Exercise 9.2.2: It should be “prove or disprove” since it’s obviously false as stated!
 - (90) p. 311, line -10: Replace $r(\mathbf{x})$ by $r(\mathbf{x}) > 0$
 - (91) p. 315, lines 3 and 4: Replace $U \setminus \{\mathbf{L}\}$ with U , and “ $\mathbf{M} = \lim_{\mathbf{y} \rightarrow \mathbf{L}} \mathbf{h}(\mathbf{y})$. Then” with “ \mathbf{h} is continuous at \mathbf{L} , then”
 - (92) p. 412, Exercise 11.3.11: Assume that x, y , and z are positive.
 - (93) p. 457, line 9: Replace “ $j = 1$ ” by “ $k = 1$ ”
 - (94) p. 470, line 1: Add: let $E_0 \subseteq E$

Note: The inequality on the penultimate line of the proof of Theorem 12.24 follows from the proof of Theorem 12.23ii.

- (95) p. 422, line 4: Replace $\cos(xy)$ by $\sin(xy)$
- (96) p. 484, line 8: Replace $\sum_{k=1}^p$ by $\sum_{Q_k \cap \partial H \neq \emptyset}$
- (97) p. 524, line 9: Replace J by I
- (98) p. 562, line -10: Replace “hyperboloid of one sheet $x^2 + y^2 - z^2 = 1$ ” by “quartic hyperboloid of one sheet $x^2 + y^2 = (z^2 + 1)^2$ ”
- (99) p. 562, line -3: Replace $x^2 + y^2 = 1 + u^2$ by $x^2 + y^2 = (1 + u^2)^2$
- (100) p. 594, line 1: Replace “Remark 14.11” by “Definition 14.10”
- (101) p. 606, line -3: Replace “integrable” by “piecewise continuous”
- (102) p. 607, line 2: Replace F by $-F$
- (103) p. 607, line 3: Replace “Theorem 5.26” by “Theorems 5.26 and 5.28” and replace “continuous on \mathbf{R} ” by “continuous on \mathbf{R} and differentiable on $[-\pi, \pi] \setminus E$ for some finite set E ”
- (104) p. 620, line -18: Replace “identity” with “equation”
- (105) p. 620, line -9: “to” should NOT be in italics
- (106) p. 621, line 5: Replace “satisfies” with “satisfy”
- (107) p. 622, line -20: Replace “Lemma A.8” by “Theorem A.8”, twice
- (108) p. 622, lines -17 and -18: Replace “Lemma A.8” by “Lemma A.7”, twice
- (109) p. 622, line -15: Replace $n - m$ with $n + m$
- (110) p. 622, line -3: Insert “with $b > 0$ between “ $< c$ ” and “*there exist*”

- (111) p. 623, line 13: Replace “the square” with “a square”
- (112) p. 624, line 5: Replace 1.11 with 1.23
- (113) p. 628, line -2: Replace B.2ii with B.2iii
- (114) p. 644, line -3: the right quote marks do not match the left quote marks
- (115) p. 629, lines -11 through -8: Replace “notice that h cuts... $b - a \cos \theta$.” with “cuts T into two right triangles whose common side $h = a \sin \theta$ and whose respective bases are $a \cos \theta$ and $b - a \cos \theta$.”
- (116) p. 648, Exercise 1.5.0a): Replace $y = \arcsin(\pi - x)$ with $y = \pi - \arcsin x$
- (117) p. 650, line -10: Erase “is the only” and “in this section which”
- (118) p. 651, line -19: Replace “the Sign Preserving Property” with “Lemma 3.28”
- (119) p. 652, line 16: Replace “greatest” with “large”