

Corrections to Complex Analysis

by Stein and Shakarchi

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Last updated: 2025-06-06

ISBN: 978-0-691-1138-2 (Princeton University Press), 978-7-5100-4054-2 (世界图书出版公司).

- ◇ Page 13, third line from the bottom 原文 where $\psi(h) = \psi_1(h) + \psi_2(h) \rightarrow 0$ 更正 where $\psi(h) = \psi_1(h) + i\psi_2(h) \rightarrow 0$
- ◇ Page 63, second displayed equation 原文 $\sum_{n=1}^{\infty} -\frac{z^n}{z_1^{n+1}}$ 更正 $\sum_{n=0}^{\infty} -\frac{z^n}{z_1^{n+1}}$
- ◇ Page 66, Exercise 9 原文 bounded open subset 更正 bounded connected open subset
- ◇ Page 67, Exercise 12 (b) 原文 $u(z) = \frac{1}{2\pi} \int_0^{2\pi} P_r(\theta - \varphi) u(\varphi) d\varphi$
更正 $u(z) = \frac{1}{2\pi} \int_0^{2\pi} P_r(\theta - \varphi) u(e^{i\varphi}) d\varphi$
- ◇ Page 69, Problem 4 原文 if not connected 更正 is not connected
- ◇ Page 69, Problem 5 原文 $\lim_{n \rightarrow \infty} F(z + N_k) = h(z)$ 更正 $\lim_{k \rightarrow \infty} F(z + N_k) = h(z)$
- ◇ Page 108, Problem 1 原文 $1/n \notin f(\mathbb{D})$ 更正 $1/n \notin f_n(\mathbb{D})$
- ◇ Page 124, first displayed equation 原文 $|\hat{f}_\varepsilon(\xi) - \hat{f}(\xi)| \leq \int_{-\infty}^{\infty} |f(x)| \left[\frac{1}{(1 + i\varepsilon x)^2} - 1 \right] dx$
更正 $|\hat{f}_\varepsilon(\xi) - \hat{f}(\xi)| \leq \int_{-\infty}^{\infty} |f(x)| \left| \frac{1}{(1 + i\varepsilon x)^2} - 1 \right| dx$
- ◇ Page 127, Exercise 2 原文 whenever $0 \leq b < a$. 更正 whenever $0 < b < a$.
- ◇ Page 128, Exercise 5 (a) 原文 the roots of R 更正 the roots of Q
- ◇ Page 131, Exercise 12 (b) 原文 let $\beta \rightarrow \pi$ 更正 let $\beta \rightarrow 1$
- ◇ Page 154, Exercise 4 (a) 原文 hence F is of order 2 更正 hence F has an order of growth ≤ 2
- ◇ Page 155, Exercise 7 (a) One should add the condition $a_n \neq -1$.
- ◇ Page 156, Exercise 16 One should add the condition that $\{a_n\}$ are distinct points.
- ◇ Page 156, Exercise 16 原文 f has a prescribed poles and principal parts 更正 f has prescribed poles and principal parts

◇ Page 167, fourth displayed equation 原文 $\sum_{n=1}^{\infty} \frac{1}{n} - \log N = \sum_{n=1}^{N-1} a_n + \frac{1}{N}$

更正 $\sum_{n=1}^N \frac{1}{n} - \log N = \sum_{n=1}^{N-1} a_n + \frac{1}{N}$

◇ Page 177, Exercise 11 原文 in the strip $\{x+iy : |y| < \pi\}$ 更正 in the strip $\{x+iy : |y| < \frac{\pi}{2}\}$

◇ Page 177, Exercise 11 原文 $\hat{f}(\xi) = \Gamma(a+i\xi)$ 更正 $\hat{f}(\xi) = \Gamma(a-2\pi i\xi)$

◇ Page 179, Exercise 17 (b) 原文 Prove that $I(0) = 0$ 更正 Prove that $I(0) = f(0)$

◇ Page 179, Exercise 17 (b) 原文 $I(-n) = (-1)^n f^{(n+1)}(0)$ 更正 $I(-n) = (-1)^n f^{(n)}(0)$

◇ Page 179, Problem 1 (a) 原文 $\zeta(s) = \sum_{1 \leq n < N} n^{-s} - \frac{N^{1-s}}{s-1} + \sum_{n \geq N} \delta_n(s)$

更正 $\zeta(s) = \sum_{1 \leq n < N} n^{-s} - \frac{N^{1-s}}{1-s} + \sum_{n \geq N} \delta_n(s)$

◇ Page 180, Problem 3 原文 $\zeta(s) = \frac{s}{s-1} - \frac{1}{2} + s \int_1^{\infty} \frac{\{x\}}{x^{s+1}} dx$

更正 $\zeta(s) = \frac{s}{s-1} - \frac{1}{2} - s \int_1^{\infty} \frac{Q(x)}{x^{s+1}} dx$

◇ Page 180, Problem 3 原文 $\zeta(s) = \frac{s}{s-1} - \frac{1}{2} + (-1)^k s \int_1^{\infty} \left(\frac{d^k}{dx^k} Q_k(x) \right) x^{-s-1} dx$

更正 $\zeta(s) = \frac{s}{s-1} - \frac{1}{2} - s \int_1^{\infty} \left(\frac{d^k}{dx^k} Q_k(x) \right) x^{-s-1} dx$

◇ Page 201, Exercise 4 原文 $Q(x) = \sum_{m=0}^{q-1} a_m e^{mx}$ 更正 $Q(x) = \sum_{m=0}^{q-1} a_{q-m} e^{mx}$

◇ Page 204, Problem 2 原文 $\psi_1(x) = \frac{x^2}{2} - \sum_{\rho} \frac{x^{\rho}}{\rho(\rho+1)} - E(x)$

更正 $\psi_1(x) = \frac{x^2}{2} - \sum_{\rho} \frac{x^{\rho+1}}{\rho(\rho+1)} - E(x)$

◇ Page 204, Problem 2 原文 $c_0 = \zeta'(-1)/\zeta(-1)$. 更正 $c_0 = -\zeta'(-1)/\zeta(-1)$.

◇ Page 212, Example 7 Replace the second paragraph, except for its first sentence, with the following: “If x travels from 0 to 1, then $f(x)$ goes from $-\infty$ to -1 on the real axis. If $z = e^{i\theta}$, then $f(z) = -\cos \theta$ and as x travels from 1 to -1 along the unit half-circle in the upper half-plane, the $f(x)$ goes from -1 to 1 on the real segment. Finally, when x goes from -1 to 0, $f(x)$ goes from 1 to ∞ along the real axis.”

◇ Page 212, Example 8 Replace the first sentence by “The map $f(z) = \sin z$ takes the half-strip $\{w = x+iy : -\frac{\pi}{2} < x < \frac{\pi}{2}, y > 0\}$ conformally onto the upper half-plane.”

◇ Page 252, Exercise 18 原文 a piecewise-smooth closed curve 更正 a piecewise-smooth simple closed curve

◇ Page 309, Exercise 1 原文 the first two derivatives 更正 the first three derivatives

- ◇ Page 311, Exercise 5 原文 Use also $mx^{m-1}(1-x) < 1 - x^m < m(1-x)$ 更正 Use also $mx^{m-1}(1-x) \leq 1 - x^m \leq m(1-x)$
- ◇ Page 313, Exercise 12 原文 the sum of the divisors of d 更正 the sum of the divisors of n
- ◇ Page 314, Problem 2 原文 $|\operatorname{Im}(\tau)| \geq 0$ 更正 $\operatorname{Im}(\tau) \geq 0$
- ◇ Page 314, Problem 2 原文 w 更正 τ'