Introduction to Complex Analysis: Corrections to 2nd edition

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7.10.2011

v^6 Delete . after 'different'

$v^{12}6$ Teaching $\to$ teaching

2_1 Replace $\frac{1}{2}(2k+1)\pi$ by $\frac{1}{2}(4k+1)\pi$

5^8 Replace superscript i2π/3 by 2πi/3; on RHS replace 7 by 11

10^9 In given equation, remove minus sign from LHS and insert minus sign on RHS.

p. 15 In 2.4, $\angle APB$ should be replaced by $\angle BPA$ (to indicate the sense correctly, as well as the magnitiude).

p. 26 Example 2.3(vii): replace Re > 1 by Re $z > 1$.

p. 28 Add assumption $c \neq 0$ in Exercise 2.14. In (iii), the value of K should be $c/(a-c\alpha)$.

36^{7-11} It suffices to carry out the calculation with $a - $-i, $b = $i and $t = 1/2$.

p. 41 In the proof of Lemma 3.18, the two references to 1.8 should be to 1.9.

48^{4-5} '$s = t$, or' can be deleted.

p. 49 In Fig. 4.1, one of the arrows points in the wrong direction.

p. 55 Fig. 4.6: there is a line missing in the triangulation.

56^9 Replace z in denominator by h.

p. 60 5.8(3): Insert $-$ on RHS of displayed equation.

74^{13} 74 In the equation in Example 6.9, add $-$ before $(1-z)^{-2}$.

95^{14} Replace $z - 1$ in the numerator by $1 - z$, in order to make correct the claim that the map is self-inverse.

p. 110 Centre of page: replace phi by φ.

p. 123 Example 10.7: parameter interval for γ_2 should be $[0, \pi]$.

p. 124 10.8, proof of FTC: replace, twice, $F(z)$ by $F'(z)$ on LHS of displays.

126^2 Replace π by 2π as upper limit of final integral.

p. 126 Exercise 10.3 requires (a simple instance of) the Deformation Theorem and so is more appropriate as an exercise for Chapter 11.

127^4 Replace $R - 1$ by $|R - 1|$.

127_{4-3} Replace by 'Deduce that, for every polynomial $p(z)$,

$$\sup_{|z|=1} |p(z) - \frac{1}{z}| \geqslant 1.$$

p. 128 Flow chart: reference to Cauchy's Theorem I should be to 11.6.

p. 131 3rd line of proof of 11.3: replace Fig. 10.1 by Fig. 11.2.

p. 132 Theorem 11.6: 'closed' not needed in statement [a contour is closed by definition].

p. 135 Proof of Theorem 11.9: definition of γ_2 should be $\gamma_2 := [c,d] \cup \gamma_1 restriction[\alpha, T]$.

144^2 Remove first $\{$.

p. 144 In the figure, replace $-\gamma_k$ by $-\widetilde{\gamma}_k$.

p. 149 Theorem 12.13(2): 'for all closed paths $\gamma \ldots$' [ie, insert missing γ]

p. 157 16.3: in statement concerning equality, replace $|x| < R$ by $0 < |z| < R$.

177_9 Replace $(z-a)^m$ by $(z-a)^{-m}$.

$186_{6,7,9}$ Replace $f \in \mathrm{D}(0;1)$ by $f \in \mathrm{H}(\mathrm{D}(0;1))$.

214^4 Replace $\mathrm{H}(\mathrm{D}(a;r))$ by $\mathrm{H}(\mathrm{D}'(a;r))$.

215^4 Insert $(m-1)!$ on RHS of equation.

217^{3-5} Replace by: $z^{-2}\pi \cot \pi z$ has a covert pole at $z = 0$ of order 3. By 17.6,

$$\frac{\pi \cot \pi z}{z^2} = \frac{1}{z^3} - \frac{\pi^2}{3z} + \cdots = -\frac{\pi^2}{3} \quad \text{for small } |z|.$$

215^{14-15} The last sentence of 18.9 may be misleading. The use of L'Hôpital's rule is to remove the indeterminancy, so that standard techniques for residue calculation can be applied.

$217_2 \rightarrow$ A factor of $1/i$ is missing in the integrand on the last two lines of p. 217, on the third line of p. 218 and (twice) on the fifth line of p. 218.

241_1 Replace $\mathrm{d}y$ by $i\,\mathrm{d}y$ and, on RHS, $\mathrm{e}^{a\pi i}$ by $\mathrm{e}^{\frac{1}{2}a\pi i}$.

246^9 Insert i before the integral sign.

249^5 Replace 20.14 by 20.4.

252^7 In (ii) replace $\dfrac{\pi}{\mathrm{e}}$ by $\dfrac{\pi}{2\mathrm{e}}$ on RHS.

252^{12} Answer should be $\dfrac{\pi(\mathrm{e}-1)}{2\mathrm{e}}$

252_9 Add assumption $0 < a < 1$.

252_4 (i): missing minus sign in answer.

253_9 Replace $\displaystyle\int_0^\infty$ by $\displaystyle\int_{-\infty}^\infty$.

254_3 Replace $y =$ by $u =$.

255^7 In (iv), replace $(1+x)$ by $(1+x)^2$.

p 248 20.12(iii): replace $\mathbf{O}(|z|)^{-2}$ by $\mathbf{O}(|z|^{-2})$.

p. 259 21.7, outline proof: Missing minus sign in integrand in second line of display.

261_2 Replace k by $k > 0$.

262_3 There should be an extra factor of R in the integrand.

280_2 Corss-references should be to 22.4 and 22.5.