

## Errata in the Published Version

- the page before cover page “dicussed” should be “discussed”
- page 7, after (1.2.19) “Theorem 1.2.6” should be “Theorem 1.2.7”
- page 10, line 1, in (1.3.28) “ $zI_\nu(z)$ ” should be “ $zI'_\nu(z)$ ”
- page 13, above (1.4.11), “ $\zeta$ ” should  $c$ .
- page 19 two lines below (2.1.10), “ $j = n, n - 1, \dots, 1$ ” should be “ $j = n - 1, n - 2, \dots, 1$ ”
- page 23 last line “Theorem 2.2.3” should be “Theorem 2.2.2”
- page 34, 4 lines below (2.5.12), “ $(e_0 dE_\lambda e_0)$ ” should be “ $(e_0, dE_\lambda e_0)$ ”
- page 94 line 3 in §4.5  $P_n^{(\nu-1/2, \nu-1/2)}(x)$  should be  $P_n^{(\nu-1/2, \nu-1/2)}(x)$
- page 96, line 2 “ $C_n^\nu$ ” should be “ $C_n^\mu(x)$ ”.
- page 105 in (4.6.39) “ $J_{\nu+\nu+1}$ ” should be “ $J_{\mu+\nu+1}$ ”
- page 112, line 1, “possibility” should be “positivity”
- page 114, line 2 “ $\sum$ ” should be “ $\sum_{n=0}^\infty$ ”
- page 116, above (4.8.5), “Rodriguez” should be “Rodrigues”
- page 123 in (4.10.3) replace “ $(2z + 1)$ ” by “ $2(z + 1)$ ”.
- page 125, (4.10.14), “Rodriguez” should be “Rodrigues”
- page 136, in (5.2.4) and (5.2.5): “ $p_{m,n-1}$ ” should be “ $p_{m,n-1}(t)$ ”, “ $p_{m,n+1}$ ”, should be “ $p_{m,n+1}(t)$ ”, “ $p_{m+1,n}$ ” should be “ $p_{m+1,n}(t)$ ”, “ $p_{m-1,n}$ ” should be “ $p_{m-1,n}(t)$ ” .
- page 136 in (5.2.5) “ $\lambda_n + \mu_n$ ” should be “ $\lambda_m + \mu_m$ ”

- page 137 2 lines above(5.2.11) “actor” should be “factor”
- page 144 below 5.3.17,  $\mathbb{C} - [-1, 1]$  should be  $\mathbb{C} \setminus [-1, 1]$ .
- page 163 below (5.7.9), “ $P_n^{(\alpha, \beta)}(x)$ ” should be “ $P_n^{(\alpha, \beta)}(x; c)$ ”
- page 172 above (5.9.6), “asymptotoc” should be “asymptotic”
- page 176 above (6.1.14), “(6.1.14)” should be “(6.1.13)”
- page 182, last line change “parameter” to “parameter and  $[\sum_0^\infty a_n t^n]_N$  means  $\sum_0^N a_n t^n$ ”
- page 196 below (6.5.11) “ $J_\nu(x) \neq 0$ ” should be “ $J_{\nu-1}(x) \neq 0$ ”
- page 196 3 lines below (6.5.11), “Theorem 6.5.5” should be “formula (6.5.11)”
- page 196 6 lines below (6.5.11), “gave explicit formulas for the polynomials  $R_{n,-1/2}(z)$  and  $R_{n,1/2}(z)$  from which he established Hurwitz’s theorem in the cases  $\nu = 1/2, 3/2$ ” should be “gave explicit formulas for the polynomials  $R_{n,1/2}(z)$  and  $R_{n,3/2}(z)$  from which he established Hurwitz’s theorem in the cases  $\nu = -1/2, 1/2$ ”
- page 202 lines below (6.6.16), Before “A similar analysis ...” insert “The results of this section are from (Ismail& Zhang, 1994.” The last sentence should be “The details are in Ismail, Rahman & Zhang, 1996.”
- page 206 formula (7.2.2)  $\alpha_j \alpha_j - 1$  should be  $\alpha_j \alpha_{j-1}$
- page 254 equation (9.0.7) should read

$$w(x; \mathbf{b})P_k(x; \mathbf{b}) \sim \sum_{n=k}^{\infty} c_{n,k}(\mathbf{b}, \mathbf{a}) \frac{\zeta(\mathbf{b})}{\zeta(\mathbf{a})} P_n(x; \mathbf{a})w(x; \mathbf{a}). \quad (9.0.7)$$

- page 267 last line in (9.3.14) “ $\beta_m$ ” should be “ $\beta_n$ ”
- page 323 line 6 from the bottom  $H_n(\cos \vartheta|q)$  should be  $H_n(\cos \theta|q)$
- page 334 4 lines below (13.4.2) “ $t = e^{i\theta}$ ” should be “ $t = e^{-i\theta}$ ”. 1 line below, in the displayed equation “ $(1 - te^{-i\theta})$ ” should be “ $(1 - te^{i\theta})$ ”
- page 342 at the end of (13.6.14), “,” should be “.”

- page 344 Insert  $x$  in the denominators of the middle and right side of equation (13.6.21) to read

$$= \frac{F(bq/x^2; aq)}{xF(b/x^2; a)} = (1+a) \frac{G(b/ax^2; aq)}{xG(b/ax^2; a)}$$

- page 346 2 lines above (13.7.17) “(13.7.13)” should be “(13.7.12)”. Also 1 line below (13.7.17) “(13.1.17)” should be “(13.7.17)”
- page 347 above (13.7.31) “ $Q_n^{(\alpha)}$ ” should be “ $\theta_n^{(\alpha)}$ ”
- page 348 In the right-hand side of the first unnumbered equation in Exercise 13.2, “ $C_n$ ” should be “ $C_{n+2k}$ ”
- page 377 above (15.1.1) “polynomials special” should be “polynomials is the special”
- page 381 last sentence in §15.1, “Exercise 15.2” should be “Exercise 15.12”
- page 390 in (15.4.5) “ $\sum_1^\infty$ ” should be “ $\sum_0^\infty$ ”
- page 399, line 3, “is that it that” should be “is that”
- page 424, in Problem 15.12 “ $\lim_{q \rightarrow 1^-} p_n(2 + x(1-q); q^{(\alpha+1)/2}, q^{(\alpha+1)/2})$ ” should be “ $\lim_{q \rightarrow 1^-} p_n(1 - x(1-q)/2; q^{(\alpha+1)/2}, q^{(\alpha+1)/2}|q)$ ”
- page 475 the sums  $\sum_{n=1}^\infty$  in (18.3.1), (18.3.2), and (18.3.3) should be  $\sum_{n=0}^\infty$
- page 478 below (18.4.10) “ $q$ -Jacobi are” should be “ $q$ -Jacobi polynomials are”
- page 478 in (18.4.13), “ $(aq)^k$ ” should be “ $(\alpha q)^k$ ” and “ $\delta_{m,n}$ ” should be “ $(\alpha q)^n \delta_{m,n}$ ”
- page 481 the left-hand side of (18.4.29) should be  $\varphi_n(x; a, t_1, t_2)$
- page 486 line 6, “ $b_n - 1$ ” should be “ $b_{n-1}$ ”
- page 511, in (20.1.7), change “ $h(x)$ ” to “ $h(x)y_n(x)$ ”
- page 550 in (21.7.5) “ $q^{j(n+1)}$ ” should be “ $q^{j(n+(j+1)/2)}$ ”
- page 551 in lines 2 and 3 from the bottom, delete the square brackets.

- page 552 line 5, “ $q^{\frac{n^2}{2}-\frac{1}{2}}$ ” should be “ $q^{-\frac{n^2}{2}-\frac{1}{2}}$ ”
- page 570 in (21.9.55), “(m(u, 0))” should be “cm(u, 0)”
- page 649, last line, replace “ $q^{-n/2}\alpha_n$ ” by “ $q^{n/2}\alpha_n$ ”
- page 663 Annaby and Mansour (2005b) appeared in volume 38, pages 3775–3797.
- page 664 Askey (2005) appeared in Advances in analysis, World Sci. Publ., Hackensack, NJ, 2005, 1–16.
- page 668 “Burchnal, J. L & Chaundy” should be “Burchnall, J. L & Chaundy”
- page 672 line 13 from below “G. F. Tricomi” should be “F. G. Tricomi”
- page 676 in Heller’s reference ”Phys. Rev 22” should be ”Phys. Rev A 12”
- page 694 in Wang and Wong (2005c), “stieltjes-wigers” should be “Stieltjes-Wigert”. The reference is: J. Math. Pures et Appl. **85** (2006), 698–718.