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TABLE ERRATA

618.—*Lehrbuch der Algebra, Vol. 3,* third edition, by Heinrich Weber, Chelsea, New York, 1961

Table VI in vol. 3 (pp. 721–726) contains values of Weber's f and f_1 functions, which Weber used to compute class invariants and generators for the Hilbert class field of $Q(\sqrt{-m})$. A numerical test of all the entries in the table to 50D (100D for larger values of m) using Mathematika revealed 10 typographical errors which are corrected below. Three steps were used in testing each entry.

(i) Compute the value of $f(\sqrt{-m})$ or $f_1(\sqrt{-m})$ from the given radical expression or from the largest real root x of the given equation.

(ii) Compute the singular value k_m^2 using the formulas

$$k_m^2 = 1/2 - \sqrt{f^{24} - 64}/(2f^{12}) \quad (m \text{ odd});$$

$$k_m^2 = 1 + \left(f_1^{24} - f_1^{12}\sqrt{f_1^{24} + 64}\right) \Big/ 32 \quad (m \text{ even}).$$

(iii) Verify that $(K(1 - k_m^2)/K(k_m^2))^2 = m$, the verification being that the resulting value of m must be an integer to 50D (or 100D).

The formulas in step (ii) are derived from the formulas $f_1^8 = (1 - k_m^2)f^8$, $f_2^8 = k_m^2 f^8$ on p. 179 (3) and $f_2^8 f^4(f^{12} + \sqrt{f^{24} - 64}) = 32$, $f_2^8 f_1^4(f_1^{12} + \sqrt{f_1^{24} + 64}) = 32$ on p. 476.

The formula in step (iii) comes from p. 168.

m	for	read	m	for	read
4	$\sqrt[3]{8}$	$\sqrt[8]{8}$	82	$\frac{15+\sqrt{41}}{2}$	$\frac{9+\sqrt{41}}{2}$
18	$\sqrt{2}$	$\sqrt[4]{2}$	210	$(5\sqrt{5} + \sqrt{14})$	$(5\sqrt{5} + 3\sqrt{14})$
41	$f(\sqrt{-41})$	$f(\sqrt{-41})^2$	357	$f(\sqrt{-357})^6$	$f(\sqrt{-357})^{12}$
42	$(3 + \sqrt{7})^3$	$(\sqrt{3} + \sqrt{7})^3$	520	$(5 + \sqrt{26})$	$(5 + \sqrt{26})^2$
72	2^6	2^7	760	$2f_1(\sqrt{-760})^8$	$2^4 f_1(\sqrt{-760})^8$

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619.—*Integrals and series, Vol.* 1, *Elementary functions*, by A.P. Prudnikov, Yu.A. Brychkov, and O.I. Marichev, Gordon and Breach, New York, 1986

Page	*Formula*	
246	1.6.7.14.	*For* $\ln 4\,(x^2+a^2)$ *read* $\ln \frac{4(x^2+a^2)}{a^2}$. The right-hand side can be simplified to $\frac{1}{a}\,[2\theta \ln 2a - \mathrm{Cl}_2(\pi - 2\theta)];\ \mathrm{tg}\,\theta = \frac{x}{a}$.
247	1.6.7.16.	In the expression for ε, *for* bd *read* $2bd$. Also, the $-$ sign of $\sqrt{1-\varepsilon^2}$ may be changed simultaneously to $+$ at its three appearances. An alternative expression for the right-hand side is $\frac{1}{d}\left\{\theta \ln\left[2\,\frac{(a-c)^2+b^2+d^2}{1+e^{-2v}}\right] - \mathrm{Cl}_2(\pi-2\theta) + \sum_{n=1}^{\infty}\frac{e^{-nv}}{n^2}\sin n(\pi - 2\theta + 2\varphi)\right\};$ $\left[\mathrm{th}\,v = \frac{2\lvert bd\rvert}{(a-c)^2+b^2+d^2}\right]$. The definitions for ε and $\mathrm{tg}\,\eta$ are superfluous in this case. Note that $\mathrm{th}\,v = \sqrt{1-\varepsilon^2}$.
337	2.3.12.23.	*For* $-8\sum_{k=1}^{\infty}\frac{(-1)^k}{k^3}$ *read* $+8\sum_{k=1}^{\infty}\frac{(-1)^k}{k^3}$.
353	2.4.4.5.	*Add* $\left\{\begin{matrix} n \text{ odd} \\ n \text{ even}\end{matrix}\right\}$ in second line.
394	2.5.9.4.	*For* $\frac{\partial^{2n+1}}{\partial b^{2n+1}}$ *read* $\frac{\partial^{2n+\delta}}{\partial b^{2n+\delta}}$.
435	2.5.25.8.	*For* $(x^2+y^2)^2$ *read* $(x^2+y^2)^{\frac{3}{2}}$; *for* $[b>y>0]$ *read* $[b>c>0,\ y>0]$.
447	2.5.32.1.	Replace the incorrect right-hand side by $\frac{a^2\pi}{2i^\delta}\left\{\frac{I_1[a(p-ib)]}{a(p-ib)} \mp \frac{I_1[a(p+ib)]}{a(p+ib)}\right\}$ $[a>0;\ \lvert\arg b\rvert<\pi]$.

page	*formula*	
448	2.5.32.2.	Replace the incorrect right-hand side by $-\frac{a^3\pi}{2i^\delta}\left\{\frac{I_2[a(p-ib)]}{a(p-ib)} \mp \frac{I_2[a(p+ib)]}{a(p+ib)}\right\}$ $[a>0;\ \lvert\arg b\rvert<\pi]$.
490	2.6.4.11.	*For* $[\mu, \operatorname{Re}\rho > 0]$ *read* $[\mu > 0,\ 0 < \operatorname{Re}\rho < 2n+2]$.
515	2.6.15.11.	*For* 0 *read* $-\infty$ in the lower limit of the integral; *for* $\pm\pi \quad [0<a<\pm y<b]$ *read* $\pi^2 \operatorname{sgn} y \quad [0 \le a < \lvert y\rvert < b]$.
515	2.6.15.12.	*For* $[\pm y \notin [a,b]; 0<a<b]$ *read* $[\lvert y\rvert \notin [a,b]; 0 \le a < b]$.
550	2.6.39.17.	Replace the incorrect right-hand side by $(-1)^{n+1}n!\,(1-2^{-n-2})\zeta(n+2)$.
684	5.1.24.10.	*For* $+(-1)^n$ *read* $+(-1)^m$.
685	5.1.24.15.	*For* $\frac{(2n-k-2)!}{(n-k-1)!}\pi^{2k}E_{2k}$ *read* $\frac{(2n-2k-2)!}{(n-2k-1)!}\pi^{2k}\lvert E_{2k}\rvert$.
700	5.2.5.9.	*For* $\operatorname{arctg} x$ *read* $\operatorname{Arth} x$.

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620.—*Integrals and series, Vol. 2, Special functions*, by A.P. Prudnikov, Yu.A. Brychkov, and O.I. Marichev, Gordon and Breach, New York, 1986

Page	*Formula*	
60	2.2.3.6.	This formula is covered by 2.2.3.8. Replace it by the correct formula for the sine in 2.2.3.7. $$\int_0^1 \sin \pi n x \, \ln \Gamma(x) \, dx = \frac{1}{\pi n}\left[\ln\frac{\pi}{2} + 2\sum_{k=0}^{[n/2]-1}\frac{1}{2k+1} + \frac{1}{n}\right] \quad [n = 1, 3, 5, \ldots].$$
60	2.2.3.7.	Replace the incorrect formula for the cosine in this entry by $$\int_0^1 \cos \pi n x \, \ln \Gamma(x) \, dx = \frac{2}{\pi^2}\left[\frac{1}{n^2}(\mathbf{C} + \ln 2\pi) + 2\sum_{k=2}^{\infty}\frac{\ln k}{4k^2 - n^2}\right] \quad [n = 1, 3, 5, \ldots].$$
61	2.3.1.7.	*For* $-\frac{\pi}{2}\left\{\begin{matrix}1\\0\end{matrix}\right\}$ *read* $\left\{\begin{matrix}-\frac{\pi}{2}\\ -\frac{2}{\pi}\left[\mathbf{C} + \ln 2\pi + 2\sum_{k=2}^{\infty}\frac{\ln k}{4k^2-1}\right]\end{matrix}\right.$.
62	2.3.1.9.	Replace the right-hand side and $[n \neq 1]$ by $$\begin{cases}\frac{n}{1-n^2} & [n - \text{even}]\\ \frac{1}{2}\ln\frac{n-1}{n+1} & [n > 1 - \text{odd}]\end{cases}.$$
195	2.12.16.4.	*For* $0 < c \leq b$ *read* $0 < c < b$. *Add* $n \geq 0$.
207	2.12.28.6.	In the second line for I_2, *for* $2\psi'$ *read* ψ' (twice).
207	2.12.28.7.	This integral is divergent as it stands.
213	2.12.32.11.	*For* $\operatorname{Re}\nu + 1 - 2n]$ *read* $\operatorname{Re}\nu + 2 - 2n;\ n \geq 0]$.

Formula

213 2.12.32.12. Replace the right-hand side by (modified from [1])

$$\frac{(-1)^n}{z^{2n}}\left\{I_\nu(uz)K_\nu(vz) - \frac{1}{2\nu}\left(\frac{u}{v}\right)^\nu \sum_{j=0}^{n-1}\frac{(\frac{1}{2}vz)^{2j}}{j!\,(1-\nu)_j}\sum_{k=0}^{n-1-j}\frac{(\frac{1}{2}uz)^{2k}}{k!\,(1+\nu)_k}\right\}$$

$$[u=\min(b,c),\ v=\max(b,c);\ n\geq 0;\ \operatorname{Re} z>0;\ \operatorname{Re}\nu>n-1].$$

An alternative expression is

$$\frac{(-1)^n}{z^{2n}}\left\{I_\nu(uz)K_\nu(vz) - \frac{1}{2\nu}\left(\frac{u}{v}\right)^\nu \sum_{j=0}^{n-1}\frac{(\frac{1}{2}vz)^{2j}}{j!\,(1-\nu)_j}\,{}_2F_1\left(-j,\ \nu-j;\ \nu+1;\ \frac{u^2}{v^2}\right)\right\}$$

$$[u=\min(b,c),\ v=\max(b,c);\ n\geq 0;\ \operatorname{Re} z>0;\ \operatorname{Re}\nu>n-1].$$

347 2.16.3.17. *For* $\frac{2}{c}$ *read* $\frac{1}{c}$.

475 2.19.12.14. *For* $J_{\gamma+\lambda}(b\sqrt{x})$ *read* $\left\{\begin{array}{c} J_{\gamma+\lambda}(b\sqrt{x}) \\ I_{\gamma+\lambda}(b\sqrt{x}) \end{array}\right\}$;

for $L_m^{\gamma+m-n}$ *read* $L_n^{\gamma+m-n}$;

for $L_n^{\lambda-m+n}$ *read* $L_m^{\lambda-m+n}$.

Reference

1. G. Solt, Table Erratum **607**, Math. Comp. **47** (1986), 768.

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621.—*Integrals and series, Vol.* 3, *More special functions*, by A.P. Prudnikov, Yu.A. Brychkov, and O.I. Marichev, Gordon and Breach, New York, 1990

Page	*Formula*	
354	2.25	*For* $\left[x \begin{matrix} [a_p,\ A_p] \\ [b_q,\ B_q] \end{matrix} \right]$ *read* $\left[x \,\middle|\, \begin{matrix} [a_p,\ A_p] \\ [b_q,\ B_q] \end{matrix} \right]$.
595	7.14.1.1.	*For* $\dfrac{z}{2(a-1)}$ *read* $\dfrac{z}{a-1}$.
599	7.14.2.51.	*For* $2I_0^2(z) - I_1^2(z) - \dfrac{I_0(z)\,I_1(z)}{z}$ *read* $2\left[I_0^2(z) - I_1^2(z) - \dfrac{I_0(z)\,I_1(z)}{z}\right]$.
800	line 4	*For* $a_j a_{j+1}$ *read* $a_j,\, a_{j+1}$.

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622.—*Tables of integral transforms*, vol. I, A. Erdélyi (Editor), W. Magnus, F. Oberhettinger, and F.G. Tricomi (research associates), McGraw-Hill, New York, 1954

Page	*Formula*	
26	1.7(29)	*For* $(x^2+a^2)^{-2}$ *read* $(x^2+a^2)^{-3/2}$; *for* $y>a$ *read* $y>b>0$.
26	1.7(31)	*For* $=2\pi$ *read* $=\frac{1}{2}\pi$; *for* $y \geq b$ *read* $y \geq \lvert b \rvert$.
27	1.7(35)	*For* $(x^2+a^2)^{-3/2}$ *read* $(x^2+a^2)^{-1}$; *for* $y>a$ *read* $y>b>0$.
45	1.12(14)	*For* $a<y<\infty$ *read* $a \leq y < \infty$.
45	1.12(17)	*For* $0<y<1$ *read* $0<y<a$ (twice).
89	2.9(11)	*For* πy^{-1} *read* $-\pi\gamma^{-1}$.

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623.—*Tables of integral transforms*, vol. II, A. Erdélyi (Editor), W. Magnus, F. Oberhettinger, F.G. Tricomi (research associates), McGraw-Hill, New York, 1954

Page	*Formula*	
43	8.9(8)	*For* $L_n^{\sigma-m+n}$ *read* $L_m^{\sigma-m+n}$; *for* $L_m^{\nu-\sigma+m-n}$ *read* $L_n^{\nu-\sigma+m-n}$.
49	8.11(13)	*For* $\mathrm{Re}\,\mu - 2n + 1$ *read* $\mathrm{Re}\,\mu - 2n + 2$.
49	8.11(15)	*For* $\mathrm{Re}\,\nu - 2n + 1$ *read* $\mathrm{Re}\,\nu - 2n + 2$.
252	15.2(42)	*For* $0 < a < b$ *read* $0 \le a < b$.
261	15.3(59)	*For* $\mathrm{Re}\,\nu > -3/2$ *read* $\mathrm{Re}\,\nu > -1/2$.

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624.—*Higher transcendental functions*, vol. I, A. Erdélyi (Editor), W. Magnus, F. Oberhettinger, and F.G. Tricomi (research associates), McGraw-Hill, New York, 1953

Page	*Formula*	
240	5.11(9)	*For* $(-y)^{\beta}$ *read* $(-y)^{-\beta}$ (see [1]).

Reference

1. A.P. Prudnikov, Yu. A. Brychkov and O.I. Marichev, *Integrals and Series*, vol. 3, *More special functions*, Gordon and Breach, New York, 1990.

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625.—*Tables of Bessel transforms*, by F. Oberhettinger, Springer-Verlag, Berlin, 1972

Page	*Formula*	
66	1.7.12	*For* $L_n^{\mu-m+n}$ *read* $L_m^{\mu-m+n}$;
		for $L_m^{\nu-\mu+m-n}$ *read* $L_n^{\nu-\mu+m-n}$.

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626.—*Table of definite and infinite integrals*, by A. Apelblat, Elsevier, Amsterdam, 1983

Page	*Formula*	
32	3.2.9	*For* $(b+c)$ *read* $(a+b)$.
47	3.3.16	*For* $-2\zeta(3,\nu)+\zeta(2,\nu)\,[2\psi(\nu+1)-3\ln a]$
		read $-2\zeta(3,\nu+1)+3\zeta(2,\nu+1)\,[\psi(\nu+1)-\ln a]$.
236	12.3.92	*For* $\frac{1}{2\pi}\,[\Gamma(\frac{1}{4})]^2\,[4\ln 2-\pi-\gamma]$
		read $-\frac{1}{2\pi}\,[\Gamma(\frac{1}{4})]^2\,(2\ln 2+\gamma)$.

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