1143[L].—WASAO SIBAGAKI, *Theory and Applications of the Gamma Function, with a Table of the Gamma Function for Complex Arguments Significant to the Sixth Decimal Place.* (Japanese.) 202 p., Tokyo, Iwanami Syoten, 1952. 18.5 × 25.5 cm.

The table gives 6D values of the real and imaginary parts of $\ln \Gamma(x + iy)$ for $x = -10(.2)-6(.1)10.4$, $y = 0(.1)2(.2)10$. For a previous tabulation of $\ln \Gamma(x + iy)$ see RMT **234** (*MTAC*, v. 2, p. 19), for other tables of the gamma function in the complex domain see RMT **855** (*MTAC*, 5, p. 25–26).

A. E.

MATHEMATICAL TABLES—ERRATA

231.—(1) F. CALLET, *Tables Portatives de Logarithmes*, Paris 1795 and many later editions.

(2) F. MASERES, *Scriptores Logarithmici.* London 1796, v. 3, p. 119–123.

(3) H. M. PARKHURST, *Astronomical Tables*, New York 1868, 1889.

(4) J. PETERS & J. STEIN, *Zehnstellige Logarithmentafel*, Band 1, Berlin 1922. *Anhang.* Table 14b, p. 156–161.

The tables referred to are the 61D common logarithms of primes between 100 and 1098 originally calculated by ABRAHAM SHARP. Seven errors occurring in all four tables have been noted by UHLER[1] as the result of an extensive examination of (4). Three of these are last figure errata.

Only five of these seven errata occur in Sharp's table of 1717, his value for log 1097 being correct. [*MTAC*, v. 1, p. 58, v. 7, p. 171, and R. C. ARCHIBALD, *Mathematical Table Makers*, p. 73].

[1] H. S. UHLER, "Omnibus checking of the 61-place table of denary logarithms compiled by Peters and Stein, by Callet and by Parkhurst," National Acad. Sci. *Proc.*, v. 39, 1953, p. 533–537.

232.—RUEL V. CHURCHILL, *Modern Operational Mathematics in Engineering*, 1944, p. 296, eq. 33.

For the Laplace transform pair

$$\frac{s^n}{(s^2 + a^2)^{n+1}} \subset \frac{t^n \sin at}{2^n\, a\, n!}$$

read

$$\frac{s^n}{(s^2 + a^2)^{n+1}} \subset \sum_{0=\mu}^{n} A_{n,\mu}\, t^{n-\mu} \sin\left(at + \frac{\pi\mu}{2}\right)$$

where

$$A_{n,\mu} = \sum_{\nu=0}^{\mu} \frac{(-1)^\nu a^{-(\mu+1)}\, (n + \mu - \nu)!}{2^{n+\mu-\nu}\, (n - \nu)!\, (\mu - \nu)!\, (n - \mu)!\, \nu!}$$

$$A_{n,0} = \frac{1}{2^n n! a}$$

$$A_{n,1} = \frac{-(n-1)}{2^{n+1}\, (n-1)!\, a^2}$$

$$A_{n,2} = \frac{n^2 - 5n + 2}{2^{n+2}\, (n-2)!\, 2!\, a^3}$$

$$A_{n,3} = \frac{-(n-3)(n^2-9n+2)}{2^{n+3}(n-3)!\,3!\,a^4}$$

$$A_{n,4} = \frac{n^4-22n^3+131n^2-206n+24}{2^{n+4}(n-4)!\,4!\,a^5}$$

etc.

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UNPUBLISHED MATHEMATICAL TABLES

171[F].—F. GRUENBERGER, *Lists of Primes*. Tabulated from punched cards. Deposited in the UMT FILE.

The list of primes is from 20 000 003 to 20 040 049 and contains 2390 primes.

F. GRUENBERGER

Univ. of Wisconsin
Madison, Wis.

172[L].—NATIONAL PHYSICAL LABORATORY, *Tables of Multhopp's Influence Functions*. 72 foolscap pages + 3 pages of description. Deposited with the ROYAL SOCIETY (no. 16).

The following integrals occur in MULTHOPP's aerodynamic theory of wing loading:

$$i(X,Y) = 1 + \frac{1}{\pi}\int_0^\pi \frac{(1+\cos\phi)(2X-1+\cos\phi)}{\sqrt{(2X-1+\cos\phi)^2+4Y^2}}\,d\phi$$

$$j(X,Y) = \frac{4}{\pi}\int_0^\pi \frac{(2\cos^2\phi+\cos\phi-1)(2X-1+\cos\phi)}{\sqrt{(2X-1+\cos\phi)^2+4Y^2}}\,d\phi$$

$$ii(X,Y) = \int_{-\infty}^X i(t,Y)dt$$

$$jj(X,Y) = \int_{-\infty}^X j(t,Y)dt.$$

Four-decimal values, within a final unit, are tabulated in the half-plane $Y \geq 0$. For convenience of arrangement and economy of space, X and Y are replaced by R and ψ, where

$$R^2 = (2X-1)^2 + 4Y^2 \qquad X = \tfrac{1}{2} + \tfrac{1}{2}R\cos\psi$$
$$\tan\psi = 2Y/(2X-1) \qquad Y = \tfrac{1}{2}R\sin\psi$$

Values are given at the pivotal points

$$\psi = 0(1°)180°$$
$$R = .2(.05)2,\ 1/R = 0(.05).5.$$

The function $ii(X,Y)$ which becomes infinite with R, is replaced near $1/R = 0$ by the function $ii(X,Y) - \frac{1}{2}R(1+\cos\psi)$.

Except in certain exceptional regions near $\psi = 0$ and $\psi = 180°$ where no