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 \(x = -10(0.2) -6(0.1) 10.4\), \(y = 0(0.1) 2(0.2) 10\). 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*, v. 5, p. 25–26).

A. E.

**MATHEMATICAL TABLES—ERRATA**


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].


For the Laplace transform pair

\[
\frac{s^n}{(s^2 + a^2)^{n+1}} \overbrace{\downarrow}^{\text{Laplace transform}} \frac{t^n \sin at}{2^n a n!}
\]

read

\[
\frac{s^n}{(s^2 + a^2)^{n+1}} \sum_{\mu=0}^{\infty} \left( \frac{A_{n,\mu} t^n \sin \left( at + \frac{\pi \mu}{2} \right) }{n!} \right)
\]

where

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

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

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

\[
A_{n,2} = \frac{n^2 - 5n + 2}{2^{n+2} (n - 2)! 2! a^2}
\]
\[ A_{n, 3} = \frac{-(n - 3)(n^2 - 9n + 2)}{2^{n+3}(n - 3)!a^4} \]
\[ A_{n, 4} = \frac{n^4 - 22n^3 + 131n^2 - 206n + 24}{2^{n+4}(n - 4)!4!a^5} \]

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UNPUBLISHED MATHEMATICAL TABLES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 \( \psi \), where

\[ R^2 = (2X - 1)^2 + 4Y^2 \]
\[ X = \frac{1}{2} + \frac{1}{2}R \cos \psi \]
\[ \tan \psi = 2Y/(2X - 1) \]
\[ Y = \frac{1}{2}R \sin \psi \]

Values are given at the pivotal points

\[ \psi = 0(1^\circ)180^\circ \]
\[ R = .2(.05)2, 1/R = 0(.05).5. \]

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 \( \psi = 180^\circ \) where no