

REVIEWS AND DESCRIPTIONS OF TABLES AND BOOKS

1[A-F, H-M, R, S, X].—MILTON ABRAMOWITZ & IRENE A. STEGUN, Editors, *Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables*, Dover Publications, New York, 1965, xiv + 1046 pp., 27 cm. Price \$4.00 (paperbound).

This is a paperback edition of the second, corrected printing of the handbook previously reviewed here in RMT 1, vol. 19, pp. 147–149. One would not know that this edition is based upon the second printing from the legend on the present page II, since it states there “. . . unaltered republication of the work first published . . . in 1964.” The corrections made here comprise most of those listed in this journal in MTE 362 and MTE 365 but do not include those subsequently listed here in MTE 373, 376, and 379.

The printing and paper are very good. Whether the saving of \$2.50 over the government hard-cover edition is worthwhile is a question whose answer depends upon the individual prospective user.

D. S.

2[A, C].—G. BARRIÈRE, *Tables de logarithmes de logarithmes, logarithmes de cologarithmes, logarithmes à six décimales*, Gauthier-Villars, Paris, 1965, 185 pp., 28 cm. Price \$5.25 (paperbound).

The three principal tables in this 6D collection are: Table I: $\log \log N$, $N = 1.00001$ (0.00001) 1.00100 (0.0001) 1.0100 (0.001) 10.000 (0.01) 100 (0.1) 1000 (1) 9999; Table II: $\log \text{colog } N$, $N = 0.000001$ (0.000001) 0.00060 (0.00001) 0.0150 (0.0001) 0.9999; Table III: $\log N$, $N = 1$ (1) 10000. These tables are supplied with first differences.

Table IV, entitled “Table d’interpolation,” is a 6D table of $\log \log N - \log |N - 1|$ for $N = 0.950$ (0.001) 1.399, with differences. This table is designed for use when interpolation in Tables I and II is not feasible.

This is followed by a table of 10D values of the first 99 multiples of $M (= \log e)$ and of its reciprocal.

In Table VI appear 6D values of 26 mathematical constants involving π and e and their reciprocals, together with 6D logarithms, $\log \log$ ’s, $\log \text{colog}$ ’s, etc. of these constants. Six physical constants, involving the gravitational constant (at Paris), are also listed to 6D.

Table VII gives a display of the variations of the logarithmic function for both bases e and 10.

Finally, Table VIII is a systematic collection of 26 types of calculation to which the main tables are applicable.

An introduction of eight pages contains definitions of the functions $\log \log$ and $\log \text{colog}$, a discussion of their properties, and examples of the use of the tables involving them.

These tables of logarithms of logarithms appear to be the most extensive pub-

lished to date. Examples of earlier, less extensive tables are those by Chappell [1] and by Boll [2].

J. W. W.

1. E. CHAPPELL, *Five-Figure Mathematical Tables*, Chambers, London, 1915. (See *MTAC*, v. 1, 1943-1945, p. 131, Q 4.)

2. M. BOLL, *Tables Numériques Universelles des Laboratoires et Bureaux d'Études*, Dunod, Paris, 1947. (See *MTAC*, v. 2, 1946-1947, pp. 336-338, RMT 428.)

3[B-E, K, S].—J. C. P. MILLER & F. C. POWELL, *The Cambridge Elementary Mathematical Tables*, Cambridge University Press, Cambridge, 1965, 47 pp., 25 cm. Price \$0.50 (paperbound).

The title page carries the information that these four-figure tables were compiled and arranged for the Cambridge Local Examinations Syndicate.

Herein we find conveniently arranged 4D (or 4S) tables of common logarithms and antilogarithms, natural and logarithmic values of trigonometric functions (at intervals of $0^\circ.1$), powers (reciprocals, squares, cubes, square roots, cube roots), factorials, natural logarithms, exponential and hyperbolic functions, trigonometric functions for angles in radians, conversion tables (radians to degrees and conversely), binomial coefficients (exact values to $n = 20$), normal distribution function and related statistical functions. Also included are conversion tables for weights and measures and for electromagnetic quantities, and an extensive list of physical constants.

All the mathematical tables are supplied with first differences, and a separate table of proportional parts to tenths is included.

The user will benefit from a perusal of the introductory notes on the use of these tables, which include a detailed discussion of interpolation therein and other methods of use.

These excellent tables should well serve the purpose for which they are intended, and will be useful to others requiring a compact set of elementary mathematical tables.

J. W. W.

4[D].—C. ATTWOOD, *Six-Figure Trigonometrical Functions of Angles in Degrees and Minutes*, Practical Tables Series No. 1, Pergamon Press, Oxford, 1965, vii + 68 pp., 20 cm. Price 7s 6d (paperback).

This is the fifth edition of a set of trigonometrical tables originally published in 1942 by the Ford Motor Company, Ltd. in Dagenham, England.

The main table consists of natural values of the six standard functions to 6S for every sexagesimal minute, arranged semiquadrantly, with initial and terminal first differences shown at the top and bottom of each column of tabular data. Auxiliary tables of proportional parts for interpolation in tenths of a minute and for subdivisions of 5 seconds are given. A 2-page table gives decimal approximations of the first 100 multiples and submultiples of π and π^{-1} to 6 or 7S, as well as $\pi n^2/4$ for $n = 1(1)100$ to similar precision. A few other, related constants such as $\pi^{\pm 2}$, $\pi^{\pm 3}$, $\pi^{\pm 1/2}$, and $\pi^{1/3}$ are given to 6 or 7D in a footnote to this table.

The customary conversion tables from minutes and seconds to degrees (6D),