this is no excuse for not providing the reader with adequate information. MR 21-2891 means *Math. Rev.*, v. 21, No. 2891, while MR 19P428(5) means *Math. Rev.*, v. 19, p. 428, item 5 on that page.

Another source of irritation is that only the first five letters of an author's surname are given. That one may have a qualm as to the wisdom of such a procedure for the ostensible purpose to save space is secondary. Most certainly, the reader is entitled to the courtesy of being informed of such a practice.

How valuable MCI will be to a research worker remains to be seen. I can offer no opinion on the subject since so little of my interests are covered.

If the journals surveyed thoroughly cover a particular segment, say algebraic topology, then it would seem that MCI will be an asset. Whether the concept is the complete answer to the problem of information retrieval is another matter.

The construction of an MCI is simple and requires no mathematical sophistication. It can be accomplished with clerical help only. This is in contrast to the recently published volume by Y. L. Luke, J. Wimp and W. Fair, *Cumulative Index to Mathematics of Computation—Volumes 1–23, 1943–1969*, American Mathematical Society, Providence, R. I., 1972, which is a systematic classification by subject matter and by author of all the contents in the journal *Mathematics of Computation* since its inception in 1943 when it was known as *Mathematical Tables and other Aids to Computation.* The importance of the volume under review and of the one mentioned above is that they break new ground for information retrieval of mathematical literature. The direction of future efforts along these lines will be conditioned by the usefulness of the indices. I am sure all authors will welcome comments and suggestions from users.

Y. L. L.

43 [2, 3, 4, 5, 7.105, 8.50].—R. S. Burington, *Handbook of Mathematical Tables and Formulas*, Fifth edition, McGraw-Hill Book Co., New York, 1973, x + 500 pp., 21 cm. Price $5.50.

This new edition of a widely used mathematical handbook differs from the fourth edition [1] in the considerable enlargement of Part One (Formulas, Definitions, and Theorems from Elementary Mathematics) through the addition of new sections on linear algebra, numerical analysis, differential equations, Legendre polynomials and Bessel functions, Fourier series and transforms, Laplace transforms, and functions of a complex variable.

The table of indefinite integrals remains unchanged; however, the table of definite integrals has been extended to include several integrals involving the Dirac δ-function, formulas for the derivative of a definite integral, and statements of the Law of the Mean for integrals and of Green's Theorem.

In Part Two (Tables) we find fewer changes. Six of the 39 tables in the fourth edition have not been retained. Those omitted include 7D mantissas of the common logarithms of integers between 10^4 and $12 \cdot 10^3$, 10D common logarithms of primes less than 1000, natural secants and cosecants to 5S for every minute of the quadrant, natural trigonometric functions to 5S for decimals of degrees, factors for computing probable errors, and 4D common antilogarithms. On the other hand, additions to this part of the handbook include a table of the summed Poisson distribution function and an extension of the range of the annuity tables to include higher interest rates.

A final new feature of the present edition is the inclusion of a valuable list of 29 references to relevant treatises, textbooks, tables, and general guides for table-users.

The author appears indeed to have taken great pains to make this edition an especially useful and reliable one.

J. W. W.

1. R. S. BURINGTON, *Handbook of Mathematical Tables and Formulas,* Fourth edition, McGraw-Hill, New York, 1965. (See *Math. Comp.*, v. 19, 1965, p. 503, RMT **72**.)

44 [2.20].—H. P. ROBINSON, *Roots of* $\tan x = x$, Lawrence Berkeley Laboratory, University of California, Berkeley, California, December 1972, ms. of 10 typewritten pp. deposited in the UMT file.

This table consists of the first 500 nonnegative roots of the equation stated in the title, all to 40D. The underlying computations were performed on a Wang 720C programmable calculator, and a partial check was provided by a preliminary calculation of the first 300 roots to 40D by means of a different program.

The results of the present calculations clearly supersede in precision and extent those of all previous ones [1] of the roots of this important equation in applied mathematics.

As an example of the use of the table, the author has applied it to the evaluation of the DuBois Reymond constant C_3, using a formula originally developed by Watson [2].

J. W. W.

1. A. FLETCHER, J. C. P. MILLER, L. ROSENHEAD & L. J. COMRIE, *An Index of Mathematical Tables,* 2nd ed., Addison-Wesley, Reading, Mass., 1962, v. 1, p. 144.
2. G. N. WATSON, "DuBois Reymond constants," *Quart. J. Math.*, v. 4, 1933, pp. 140–146.

45 [2.20, 3, 4].—M. P. CHERKASOVA, *Problems on Numerical Methods*, translated from the Russian by G. L. Thomas and R. S. Anderssen, Wolters-Noordhoff Publishing, Groningen, The Netherlands, 1972, vii + 210 pp., 23 cm. This book is available from International Scholarly Book Services, Inc., P. O. Box 4347, Portland, Oregon 97208. Price $8.50.

This book is intended to serve as an educational aid in elementary numerical analysis courses by providing the student with a comprehensive set of numerical problems (with answers) upon which he can cut his computational teeth. Chapter 1, "The approximate solution of nonlinear algebraic and transcendental equations," contains 301 problems; Chapter 2, "Numerical methods in linear algebra," contains 146 problems; and Chapter 3, "Numerical solution of ordinary differential equations," contains 28 problems, many containing 5 or 6 parts. Each chapter contains brief summaries of the methods intended for use on the problems.