

0(0.001)1.65; and Table 5 gives $\sin \varphi$ to 4 D for $\varphi = 0(6')90^\circ$, $\tan \varphi$ to 4 D for $\varphi = 0(6')70^\circ$, to 3 D for $\varphi = 70^\circ(6')85^\circ$, and to 2 D for $\varphi = 85^\circ(6')89^\circ54'$, and the radian equivalent of φ to 4 D. The publisher states that every tabular value was independently calculated electronically, and the tables appear to have been produced by a photo-offset process from the computer output sheets.

A number of improvements can be incorporated in a subsequent edition, in the opinion of this reviewer. For example, the discussion of Diophantine equations (p. 172–173) is restricted to a consideration of a single linear equation in two variables with integral coefficients, without any reference to the fact that this topic includes indeterminate equations of higher degree as well as of more variables. (Incidentally, the heading on p. 173 should be “Diophantine Equations” instead of “Diameter.”) Moreover, on p. 231 the statement of the fundamental theorem of algebra is unnecessarily restricted to algebraic equations with *real* coefficients.

It is interesting and informative to compare this book with recent mathematical dictionaries by Karush [1] and by James and James [2]. The breadth of coverage appears to be greater in the latter two references; however, the treatments therein of certain topics in elementary mathematics such as circles and triangles and their properties are not as extensive as in the book under review.

Within the limitations described in the Foreword and referred to in this review, the present book will serve as a useful reference for the technical student, although it does not attain the pre-eminence that is implied by its ambitious title.

J. W. W.

1. WILLIAM KARUSH, *The Crescent Dictionary of Mathematics*, The Macmillan Company, New York, 1962. (Reviewed in *Math. Comp.*, v. 17, 1963, p. 478, RMT 88.)
2. GLENN JAMES & ROBERT C. JAMES, *Mathematics Dictionary*, 2nd ed., Van Nostrand, Princeton, N. J., 1959. (Reviewed in *MTAC*, v. 13, 1959, p. 331–332, RMT 66.)

23[X].—KAJ L. NIELSEN, *Methods in Numerical Analysis*, Second Edition, The Macmillan Company, New York, 1964, xiv + 408 p., 23 cm. Price \$9.00.

Since this text is designed for a one-semester undergraduate course, no knowledge of mathematics beyond elementary calculus is assumed.

The customary topics of least-squares approximation, interpolation, numerical integration and differentiation, finite-difference methods applied to differential equations, and the solution of systems of equations (linear and nonlinear) are discussed. Material is included on such topics as multiple integration, trigonometric fitting of data, smoothing of data, autocorrelation, and a chapter on linear programming.

The book stresses the proper organization of various numerical methods for efficient use of a desk calculator or larger computer. Many examples are worked out in complete detail, with further exercises for the student at the end of each chapter. The author has also included useful tables to aid in the construction of various algorithms.

BERT E. HUBBARD

University of Maryland
College Park, Maryland