25[L, M].—H. E. SYRET & M. W. WILSON, *Computation of Fresnel Integrals to 28 Figures: Approximations to 8 and 20 Figures*, Computer Science Department, University of Western Ontario, London, Ontario, ms of 65 pp. + 96 pp. (unnumbered) of tables, deposited in UMT file.

The main tables in this unpublished report are those of the Fresnel integrals $S(x)$ and $C(x)$ to 28 S in floating-point form for $x = 0(0.001)2(0.01)10$.

The prefatory textual material is presented in ten chapters devoted, respectively, to definitions of the Fresnel integrals, expansions in Taylor series and in asymptotic series (with 12S and subsequently 28S tables of the first 24 coefficients of the latter), generating functions as introduced by Boersma [1], approximation by finite series of Chebyshev polynomials (with tables of coefficients to 10S and 20S), description of the main tables (including a discussion of the use of Lagrange interpolation), and a list of six references.

On p. 28 we find a brief list of pertinent constants, mostly to 28S; included are π, $\pi/2$, $(2/\pi)^{1/2}$, and $2^{1/2}/\pi$. Rather surprisingly, terminal-digit errors of a unit occur in the first and third of these.

The present tables of Fresnel tables are by far the most precise of their kind, inasmuch as previously published tables such as those by Watson [2], Pearcey [3], and Corrington [4] extend to at most 8D.

The user will observe the occasional omission of leading figures in the third group of six digits in the tabular entries. This is due to the unfortunate suppression of zeros in these places in the course of the computer editing of these data.

J. W. W.

1. J. BOERSMA, "Computation of Fresnel integrals," *Math. Comp.*, v. 14, 1960, p. 380.
2. G. N. WATSON, *A Treatise on the Theory of Bessel Functions*, second edition, Cambridge University Press, Cambridge, 1944, pp. 744–745.
3. T. PEARCEY, *Table of the Fresnel Integral to Six Decimal Places*, Cambridge University Press, Cambridge, 1957. (See *MTAC*, v. 11, 1957, pp. 210–211, RMT **87.**)
4. M. S. CORRINGTON, *Tables of Fresnel Integrals, Modified Fresnel Integrals, the Probability Integral, and Dawson's Integral*, Radio Corporation of America, R.C.A. Victor Division. (See *MTAC*, v. 7, 1953, p. 189, UMT **166.**)

26[L, X].—N. N. LEBEDEV, *Special Functions and their Applications*, translated from the Russian by RICHARD A. SILVERMAN, Prentice-Hall Inc., Englewood Cliffs, New Jersey, 1965, xii + 308 pp., 24 cm. Price $12.00.

A subject basic to applied mathematics and the mathematics of computation is that of special functions. The subject, unfortunately, has little academic status in the mathematical curriculum, though some topics are often covered as a by-product of courses in theoretical and mathematical physics. Thus, by far and large, it is necessary to learn the subject by self-study. The present volume is ideal for this purpose, and indeed should prove suitable for an academic text.

The book presupposes that the reader is familiar with the elements of real and complex variable theory, although the author attempts to keep the required background material to a minimum. Of course, a better understanding of the subject is also facilitated by some knowledge of differential equations and asymptotics. This material is not introduced in any systematic fashion, but is presented to the reader as the need arises in connection with certain special functions. The arrangement of the material in the various chapters is dictated by the desire to make the chapters