29c Percentage points of the ratio of range to standard deviation, w/s, where w and s are derived from the same sample of n observations.

The range of the table is $n = 3(1)20(5)100(50)200$, 500, 1000 for upper and lower 0.0 %, 0.5 %, 1.0 %, 2.5 %, 5.0 % and 10.0 % points. At least 3S.

31a Percentage points of the ratio $s_{\max}^2/\sum_{t=1}^{k} s_t^2$.

Note: $s_{\max}^2$ is the largest in a set of k independent mean squares, s_t^2, each based on ν degrees of freedom.

The range of the table is $k = 2(1)10, 12, 15, 20$; $\nu = 1(1)10, 16, 36, 144, \infty$ for the 5 % and 1 % points. Values to 4D.

31b Percentage points of the ratio $w_{\max}/\sum_{t=1}^{k} w_t$. Upper 5 % points.

Note: $w_{\max}$ is the largest in a set of k independent ranges, w_t, each derived from a sample of n observations.

The range of the table is $k = 2(1)10, 12, 15, 20$; $n = 2(1)10$ and the accuracy is 3D.

34c Tests for departure from normality. Percentage points of the distribution of $b_2 = m_4/m_2^2$.

The values of $n = 50(25)\,150(50)\,700(100)\,1000(200)\,2000(500)\,5000$.

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33[L].—Henry E. Fettis & James C. Caslin, *Ten Place Tables of the Jacobian Elliptic Functions* II. *Theta Functions and Conversion Factors*, Report ARL 66-0069, Aerospace Research Laboratories, Office of Aerospace Research, United States Air Force, Wright-Patterson Air Force Base, Ohio, April 1966, iv + 109 pp., 28 cm. Copies obtainable upon request from the Defense Documentation Center, Cameron Station, Alexandria, Virginia.

This report concludes a compilation in two parts of new tables by the authors relating to the Jacobian elliptic functions. In this second part we find a 10D table, without differences, of the ratio $\Theta(u, k)/\Theta(0, k)$, in the original notation of Jacobi, for $k^2 = 0.01(0.01)1$ and $u = 0(0.01)N$, where N ranges from 1.60 to 4.00 with increasing values of k^2 in a manner too complicated for simple description. This table was calculated on an IBM 1620 system by use of Gauss's transformation, as described in the introduction. A supplementary two-page table gives 10D conversion factors (involving the theta functions of zero) that permit the calculation of the remaining three theta functions (expressed in Jacobi's earlier notation) from the present tabular data in conjunction with the values of the Jacobi elliptic functions tabulated in the first report [1]. The basic formulas are given for such calculations.

The abbreviated introduction to the present tables contains no discussion of the problem of interpolation therein nor of the precautions, if any, that were taken to insure accuracy in the printed data.

In the introductory text this reviewer detected five typographical errors in addition to three noted by the authors on an insert sheet. Furthermore, the exponent was advertently omitted from k^2 in the tabular headings on pages 18, 19, and 107. It is regrettable that such careless errors should have been allowed to mar this unique table.

J. W. W.

1. HENRY E. FETTIS & JAMES C. CASLIN, *Ten Place Tables of the Jacobi Elliptic Functions*, Report ARL 65-180 Part 1, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, September 1965.

34[L, M].—HENRY E. FETTIS & JAMES C. CASLIN, *Elliptic Integral of the Third Kind*, Applied Mathematics Research Laboratory, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, two manuscript volumes, each of 180 computer sheets, deposited in the UMT file.

The authors have herein tabulated to 10D the elliptic integral of the third kind in Legendre's form for $\theta = 0°(1°)90°$, and arcsin $k = 0°(1°)90°$, $\alpha^2 = 0.1(0.1)1$, except that when $\alpha^2 = 1$, the upper limit of the argument θ is 89°. This voluminous table is intended as a companion to the authors' manuscript 10D tables of the elliptic integrals of the first and second kinds [1].

The published 10D tables [2] of elliptic integrals by the same authors employ the modulus k or its square rather than the modular angle as one argument. However, it is possible to compare a few of the entries in those tables with corresponding entries in the tables under review; in particular, those entries corresponding to the erroneous entries [3] in the published tables are thus found to be given correctly.

The authors have informed this reviewer that the present tables were calculated on an IBM 7094 system by means of a program adapted from that used on an IBM 1620 in preparing their previous tables of elliptic integrals.

The impressive series of 10D tables of elliptic integrals and elliptic functions by the present authors reflect the continually increasing capabilities of electric digital computer systems used in such calculations.

J.W.W.

1. HENRY E. FETTIS & JAMES C. CASLIN, *Elliptic Integral of the First Kind and Elliptic Integral of the Second Kind*, ms. tables deposited in the UMT file. (See *Math. Comp.*, v. 20, 1966, pp. 626, RMT **99.**)
2. HENRY E. FETTIS & JAMES C. CASLIN, *Tables of Elliptic Integrals of the First, Second and Third Kind*, Applied Mathematics Research Laboratory Report ARL 64-232, Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, 1964. (See *Math. Comp.*, v. 19, 1965, p. 509, RMT **81.**)
3. *Math. Comp.*, v. 20, 1966, p. 639, MTE **398.**

35[L, X].—V. S. AIZENSHTADT, V. I. KRYLOV & A. S. METEL'SKIĬ, *Tables of Laguerre Polynomials and Functions*, translated by Prasenjit Basu, Pergamon Press, Inc., Long Island, New York, 1966, xv + 150 pp., 24 cm. Price $8.00.

This is an English translation of some work originally published by the Academy of Sciences of the BSSR, Minsk, in 1963. It is closely related to some work done by the same authors in 1962 and previously reviewed in these annals, see *Math. Comp.*, v. 17, 1963, p. 93.

Let $L_n^s(x)$ denote the generalized Laguerre polynomial which we express in hypergeometric form as $L_n^s(x) = (s+1)_n\, {}_1F_1(-n; s+1; x)$. Note that the polynomials are usually normalized by the factor $(s+1)_n/n!$ The related function