

24, 30, 40, 60, 120, ∞ , $n_1 \leq n_2$. An ALGOL code (in English) is given for the calculation of f , $\min \alpha$ and $\max \alpha$, as well as for the $\alpha/2$ -percentiles of the Student t -distribution.

STANLEY SAWYER

Brown University
Department of Mathematics
Providence, R. I. 02912

15[9].—JOSEPH B. MUSKAT & ALBERT L. WHITEMAN, *The Cyclotomic Numbers of Order Twenty*, University of Pittsburgh, Pittsburgh, Pennsylvania, and University of Southern California, Los Angeles, California, 40 computer sheets deposited in the UMT file.

This table presents formulas for the cyclotomic numbers of order 20. The derivation and computation of these formulas are described in [1].

The 400 cyclotomic numbers (h, k) , $0 \leq h, k \leq 19$, can be grouped into 77 sets. There is a formula for each set, a linear combination of the prime p , a constant, and sixteen variables associated with Jacobi sums. The formulas depend, however, on $\text{ind } 2 \pmod{10}$ et al., so that there are forty different cases. All forty cases are given, one per sheet. Considerably fewer are necessary, for some cases can be derived from others merely by changing the primitive root used in generating the cyclotomic numbers.

AUTHORS' SUMMARY

1. JOSEPH B. MUSKAT & ALBERT L. WHITEMAN, "The cyclotomic numbers of order twenty," *Acta Arithmetica*, v. 17, no. 2, (to appear).

16[12].—R. E. GRISWOLD, J. F. POAGE & I. P. POLONSKY, *The SNOBOL 4 Programming Language*, Prentice-Hall, Inc., Englewood Cliffs, N. J., x + 221 pp., 28 cm. Price \$6.50 (paperbound).

SNOBOL 4 is a general-purpose string manipulation language and includes many novel features. Wider use has been hampered by the low availability of information about SNOBOL 4, except for photocopied journal extracts. This book clearly and cleanly fills this gap. It includes descriptions and examples of all currently implemented facilities. Many common problems of SNOBOL 4 users are resolved. Also included are seven complete working programs, although none seem to be real solutions of real problems. The book is aimed at advanced students and those with some programming experience and problems which may be solved by SNOBOL 4, and should hit this target well. It should be read by all with any possible interest in SNOBOL 4.

HENRY MULLISH
PAUL STEIER

Courant Institute of Mathematical Sciences
New York University
New York, New York 10012

17[12].—JOHN A. N. LEE, *The Anatomy of a Compiler*, Reinhold Publishing Corp., New York, 1967, xi + 275 pp., 24 cm. Price \$13.75.