$$1 - F_n(\chi^2) = [2^{n/2}\Gamma(n/2)]^{-1} \int_{\chi^2}^{\infty} x^{n/2-1}e^{-x/2}dx$$

for $n = 1(1)50$, $\chi^2 = 0.001(0.001)0.01(0.01)0.1(0.1)107$. As explained in the introductory text, those values that round to 0 or 1 to 5D have been omitted. It should be particularly noted that the tabulated values are those of the complementary function, $1 - F_n(\chi^2)$, and not those of $F_n(\chi^2)$ as implied in the introduction.

The tabulated values were obtained by appropriately rounding 8S floating-point values calculated on an IBM 1620 Mod. I system, employing an iterative procedure due to R. Thompson [1].

A spot check made by the authors with corresponding entries in the tables of Pearson & Hartley [2] revealed no discrepancies.

The abbreviated bibliography contains no reference to the extensive tables of Harter [3], which include 9D values of the incomplete gamma-function ratio

$$I(u, p) = 2^{-n/2}\{\Gamma(n/2)\}^{-1} \int_0^{\chi^2} e^{-x/2}x^{n/2-1}dx ,$$

where $u = \chi^2/(2n)^{1/2}$ and $p = n/2 - 1$.

Hence, we have the relation $F_n(\chi^2) = I(\chi^2/(2n)^{1/2}, n/2 - 1)$, which reveals that entries in the two tables are generally not readily comparable.

Because of the conveniently small increment in $\chi^2$ throughout, the present table should provide a useful supplement to the cited tables of Pearson & Hartley.

J. W. W.

1. Rory Thompson, "Evaluation of $I_n(b) = 2\pi^{-1} \int_0^\infty (\sin x/x)^n \cos (bx)dx$ and of similar integrals," *Math. Comp.*, v. 20, 1966, pp. 330–332.
2. E. S. Pearson & H. O. Hartley, *Biometrika Tables for Statisticians*, Vol. I, third edition, Cambridge University Press, Cambridge, 1966.
3. H. Leon Harter, *New Tables of the Incomplete Gamma-Function Ratio and of Percentage Points of the Chi-Square and Beta Distributions*, U. S. Government Printing Office, Washington, D. C., 1964.

**9[9].**—Dov Jarden, *Recurring Sequences*, Second Edition, Riveon Lematematika, 12 Gat St., Kiryat-Moshe, Jerusalem, 1966, ii + 137 pp. Price $6.

The second edition, which has been produced on a more durable paper, is an enlargement and revision of the first. The enlargement comes from the inclusion of eight new articles, while the revision consists mainly of the inclusion of many new prime factors in the two factor tables in the work.

In general, the book is a collection of short papers by the author on various questions concerning the Fibonacci numbers $U_n$, their associated sequence $V_n$, and other recurring sequences. Representative titles are, "Divisibility of $U_{mn}$ by $U_mU_n$ in Fibonacci's sequence," "Unboundedness of the function $[p - (5/p)]/a(p)$ in Fibonacci's sequence," and "The series of inverses of a second order recurring sequence." There is also a large chronological bibliography on recurring sequences.

Among the new articles is one of general interest to Decaphiles, "On the periodicity of the last digits of the Fibonacci numbers," where the period mod $10^d$ is shown to be 60, 300, and $15 \cdot 10^{d-1}$ for 1, 2, and $d \geqq 3$ final digits.

The two revised factor tables, which were provided by the reviewer, are at present the most extensive in the literature.

Of these, the first table is a special table giving the complete factorization of $5U_n^2 \pm 5U_n + 1$ for odd $n \leqq 77$, the two trinomials being the algebraic factors in

$$V_{5n}/V_n = (5U_n^2 - 5U_n + 1)(5U_n^2 + 5U_n + 1)\,,$$

$n$ odd.

The second table is the general factor table for $U_n$ and $V_n$ with $n \leqq 385$. The overall bound for prime factors is $2^{35}$ for $n < 300$ and $2^{30}$ for $300 \leqq n \leqq 385$. It also shows that $U_n$ and $V_n$ are completely factored up to $n = 172$ and $n = 151$ respectively. The table gives as well an indication for the incomplete factorizations whether their cofactors are composite or pseudoprime. The introduction to this table provides the further information that $U_n$ is prime for $n \leqq 1000$ iff $n = 3, 4, 5, 7, 11, 13, 17, 23, 29, 43, 47, 83, 131, 137, 359, 431, 433, 449, 509, 569, 571$, while $V_n$ is prime for $n \leqq 500$ iff $n = 0, 2, 4, 5, 7, 8, 11, 13, 16, 17, 19, 31, 37, 41, 47, 53, 61, 71, 79, 113, 313, 353$. The number $U_{359}$, which was only known to be a pseudoprime at the time of publication of the tables, has since been shown to be a prime by the reviewer.

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**10[9].**—K. E. Kloss, M. Newman & E. Ordman, *Class Number of Primes of the Form* $4n + 1$, National Bureau of Standards, 1965, 15 Xeroxed computer sheets deposited in the UMT file.

This interesting table lists the first 5000 primes of the form $4n + 1$—from $p = 5$ to $p = 105269$. For each such prime $p$ is listed the class number $h(p)$ of the real algebraic quadratic field $R(\sqrt{p})$. Alternatively, this is also the number of classes of binary quadratic forms of discriminant $p$. The table is similar to that announced in [1], and was computed about five years ago on an experimental machine, the NBS PILOT. The method used was the classical one of listing all reduced forms and counting the "periods" into which they fall. Appended are short extensions: the class numbers for the first 100 primes $4n + 1 > 10^6$ and for the first $35 > 10^7$.

In [1], Kloss reports that about 80% of these primes have class number 1. We have tallied the following more detailed statistics: the number of examples with class number 1, 3, 5, etc. that occur among the first 1000, 2000, etc. primes.

Table

| | $h = 1$ | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 27 | 29 | $>30$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | 816 | 101 | 35 | 22 | 9 | 6 | 5 | 2 | 1 | — | 1 | — | — | 1 | — | 1 |
| 2000 | 1622 | 213 | 70 | 36 | 19 | 10 | 8 | 7 | 2 | 2 | 1 | 2 | 1 | 3 | — | 4 |
| 3000 | 2420 | 306 | 111 | 58 | 34 | 13 | 14 | 13 | 7 | 5 | 2 | 2 | 4 | 3 | 1 | 7 |
| 4000 | 3198 | 422 | 145 | 79 | 50 | 19 | 20 | 16 | 9 | 8 | 5 | 3 | 7 | 4 | 2 | 13 |
| 5000 | 3987 | 522 | 183 | 98 | 66 | 29 | 28 | 20 | 11 | 11 | 7 | 4 | 10 | 4 | 4 | 16 |

It will be noted that Kloss's 80% is remarkably steady. Similarly, a little over 10% have class number 3, 3.6% have class number 5, 2% have class number 7, 1.2% have class number 9, etc. *Queries*: What is this 80%? More generally, what is