29[9].—Edward T. Ordman, *Tables of the Class Number for Negative Prime Discriminants*, National Bureau of Standards, 1968, 18 Xeroxed computer sheets deposited in the UMT file.

There are deposited here two tables of class numbers $h(-p)$: (1) those for the first 2455 primes of the form $8n + 3$, lying in the range $3 \leqq p \leqq 102059$, (2) those for the first 2445 primes of the form $8n + 7$, lying in the range $7 \leqq p \leqq 102103$. Each table required only a few minutes computer time on a Univac 1108 in August, 1968. The program computed and counted the reduced forms for these (negative prime) discriminants.

A number of checks were made and no error was discovered. The first table was computed originally for the specific purpose [1] of determining those p with $h(-p) = 25$ and $p < 163 \cdot 25^2$. This accounts for the upper limit on p indicated above. Of course, the tables will have many other uses.

From theory, each of these class numbers is odd, and we list the first and last examples for each class number $h = 1(2)25$.

h	$8n + 3$		$8n + 7$	
1	3	163*	7	7*
3	59	907	23	31*
5	131	2683	47	127*
7	251	5923	71	487*
9	419	10627	199	1423*
11	659	15667	167	1303*
13	1019	20563	191	2143*
15	971	34483	239	2647
17	1571	37123	383	4447
19	2099	38707	311	5527
21	1931	61483	431	5647
23	1811	90787	647	6703
25	3851	93307	479	5503

It is highly probable that the "last examples" in these tables are the largest that exist, but that has been proven only for those cases marked with an asterisk * [1].

Aside from this printed version, the tables are also kept on punched cards, as are the earlier tables of $h(p)$, $p \equiv 1 (\text{mod } 4)$, that were deposited in the UMT file and reviewed previously [2].

D. S.

1. Daniel Shanks, "On Gauss's class number problems," *Math. Comp.*, v. 23, 1969, pp. 151–163.

2. K. E. Kloss et al., *Class Number of Primes of the Form* $4n + 1$, RMT **10**, *Math. Comp.*, v. 23, 1969, pp. 213–214.

30[9].—J. H. Jordan & J. R. Rabung, *A Table of Primes of* $Z[(-2)^{1/2}]$, Washington State University, Pullman, Washington, July 1968, twenty computer sheets deposited in the UMT file.

Each (rational) prime p of the form $8m + 1$ or $8m + 3$ has a unique decomposition

$$p = a^2 + 2b^2 = (a + b(-2)^{1/2})(a - b(-2)^{1/2}) .$$

This table gives a and b for the 4793 such primes $p < 10^5$, from

$$3 = 1^2 + 1^2 \cdot 2 \quad \text{to} \quad 99971 = 207^2 + 169^2 \cdot 2 .$$

It is printed on 19+ sheets of computer paper, 250 primes per page, and was computed on an IBM 360, Mod 67. No details are given concerning the method or computer time.

The same table is contained (with much else) in Cunningham's valuable book [1] that is long out of print.

The present table is similar in character and scope to this Computing Center's earlier table of Gaussian primes. Our detailed and lengthy commentary [2] on that earlier table could have analogous remarks here, but we largely leave examination of such analogies to any interested reader. The largest complex prime in $Z[(-2)^{1/2}]$ presently known [3] to the undersigned is the quite modest:

$$179991 + (-2)^{1/2} .$$

Clearly, larger complex primes here would not be difficult to find.

It may be of interest to add that while the primes $p = a^2 + 2b^2$ constitute asymptotically one-half of the primes, and this does not differ from the primes

$$p = a^2 + nb^2$$

with $n = -2, 1, 3, 4, 7$, the number of composites $c = a^2 + 2b^2$ is exceptionally large [4].

D. S.

1. A. J. C. Cunningham, *Quadratic Partitions*, Hodgson, London, 1904.
2. L. G. Diehl & J. H. Jordan, *A Table of Gaussian Primes*, UMT 19, *Math. Comp.*, v. 21, 1967, pp. 260–262.
3. Daniel Shanks, "On the conjecture of Hardy and Littlewood concerning the number of primes of the form $n^2 + a$," *Math. Comp.*, v. 14, 1960, pp. 321–332. (We check their count by $\pi(10^5) - \pi_2(10^5) - 1 = 4793$ from our Table 3.)
4. Daniel Shanks & Larry P. Schmid, "Variations on a theorem of Landau. Part I," *Math. Comp.*, v. 20, 1966, Sect. 6, pp. 560–561.

31[9].—Beth H. Hannon & William L. Morris, *Tables of Arithmetical Functions Related to the Fibonacci Numbers*, Report ORNL-4261, Oak Ridge National Laboratory, Oak Ridge, Tenn., June 1968, iii + 57 pp., 28 cm.

Five arithmetical functions related to the Fibonacci numbers, u_n, are herein tabulated for all positive integer arguments m to 15600, inclusive.

The first of these, designated by $\pi(m)$, is called the *Pisano period* of m; it is the least integer k such that $u_k \equiv 0 \pmod m$ and $u_{k+1} \equiv 1 \pmod m$. Closely related to this function is the *restricted period* of m, here denoted by $\alpha(m)$, which is the least integer n such that $u_n \equiv 0 \pmod m$. This is generally called the "rank of apparition" or "entry point," and has been previously tabulated [1], [2] for all primes less than 10^5. The quotient $\beta(m) = \pi(m)/\alpha(m)$ is also tabulated in this report.