Pre-Ph.D. Research

Math. of Comp. 23(1969) p 458

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 $h(p)$, $p \equiv 1 \pmod 4$, 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.