Statistics for K_H-tables

For a number field K let K_1 be the Hilbert class field of $K_0 := K$, let K_2 be the Hilbert class field of K_1, ... and let K_H be the maximal soluble unramified extension of K. The length of the class field tower is the minimal integer i such that $K_H = K_i$ or ∞.

There are 3043 real quadratic number fields K with discriminant $d_K < 10000$. The following tables show how they are divided according to the length of the class field tower and according to the degree $(K_H : \mathbb{Q})$. The results depend on GRH.

length of class field tower	0	1	2	3
number of fields	1282	1536	219	6

$(K_H : \mathbb{Q})$	Number of fields	$(K_H : \mathbb{Q})$	Number of fields	$(K_H : \mathbb{Q})$	Number of fields
2	1282	24	41	60	1
4	889	26	2	64	4
6	133	28	9	72	3
8	262	32	24	80	1
10	47	36	3	84	2
12	124	40	3	108	1
14	22	42	1	112	1
16	120	44	1	128	1
18	7	48	15	192	1
20	36	54	1		
22	3	56	3		