

Name and Surname:

Student Number:

Math 366 - Spring 2013 - METU

**Quiz 1**

For each  $d$  below, if possible, find a pair of integers  $(x, y)$ , different than  $(\pm 1, 0)$ , such that  $x^2 - dy^2 = 1$ . If not possible, then indicate this by putting  $\times$  in the related boxes.

$d$	$x$	$y$	$d$	$x$	$y$
1	$\times$	$\times$	21	55	12
2	3	2	22	197	42
3	2	1	23	24	5
4	$\times$	$\times$	24	5	1
5	9	4	25	$\times$	$\times$
6	5	2	26	51	10
7	8	3	27	26	5
8	3	1	28	127	24
9	$\times$	$\times$	29	9801	1820
10	19	6	30	11	2
11	10	3	31	1520	273
12	7	2	32	17	3
13	649	180	33	23	4
14	15	4	34	35	6
15	4	1	35	6	1
16	$\times$	$\times$	36	$\times$	$\times$
17	33	8	37	73	12
18	17	4	38	37	6
19	170	39	39	25	4
20	9	2	40	19	3