Math484.2 September 29,2011
Name:_____Dr.V._____
Midterm1, 5 problems, 15 points each. Return this page with your name on both sides.

1. Solve for x where a is a given number:
$a^2x - y = a^2$,
$ax + ay = 1$.

2. $x + y^2 \rightarrow$ max,
$x^2 + y^2 = 10$; x and y integers.

3, 4. Solve the linear programs given by the following tableaux with all decision variables $x_i \geq 0$:

$x1$	$x2$	$x3$	1	Problem 3
1	0	-1	-2	$=- x_4$
1	0	1	-1	-> min

$x1$	$x2$	$-x3$	1	Problem 4
1	0	-1	2	$= x_4$
1	0	1	-1	-> min

5.Find all logical implications between the following 5 constraints on x, y:
(a) $x^4 = y^4$, (b) $0 > -2$, (c) $0 = 0$, (d) $x = -y$, (e) $x=y=0$.