1) a)

			00x	0x0	x01	x10	1x1	11x
000✓	00x	000	1	1				
001✓	0x0	~~001~~	1		1			
010✓	x01	~~010~~		1		1		
101✓	x10	~~101~~			1		1	
110✓	1x1	~~110~~				1		1
dc 111✓	11x							

$f = a\bar{b} + \bar{b}c + b\bar{c}$

b) 6

c)

$\bar{f}$

a \ bc	00	01	11	10
0	0	0	1	0
1	1	0	X	0

$\bar{f} = a\bar{b}\bar{c} + bc$

$\bar{\bar{f}} = a\bar{b}\bar{c} + bc$

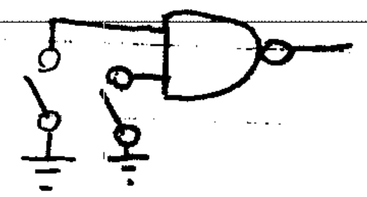
$f = \overline{a\bar{b}\bar{c}} \cdot \overline{bc}$

$f = (\bar{a}+b+c)(\bar{b}+\bar{c})$

d) 5

e) If and only if abc = 0 in part (a), i.e., the don't-care must not need to change.

2) Inputs float high.



3) a)

0000 0000	0x00
0001 1000	0x18
0010 0100	0x24
0101 1010	0x5a
1010 0101	0xa5

b)

512	64	8	1
1	2	0	7

1207_8

647
-512·1
135
-64·2
7
-8·0
7