

ECE/CS 3700
Solutions to HW 4

Problem 7

A	B	C	D	w	y	x	z
0	0	0	0	0	1	1	1
0	0	0	1	1	0	0	0
0	0	1	0	1	0	0	1
0	0	1	1	1	1	0	0
0	1	0	0	1	1	1	0
0	1	0	1	1	0	1	0
0	1	1	0	1	1	0	1
0	1	1	1	1	1	1	1
1	0	0	0	0	1	0	1

		CD				w	
		00	01	11	10		
AB							
	00	0	1	1	1		
	01	1	1	1	1		
	11	X	X	X	X		
	10	1	0	X	X		

$$w = B + C + \bar{A}D + A\bar{D}$$

		CD				x	
		00	01	11	10		
AB							
	00	1	0	1	0		
	01	1	0	1	1		
	11	X	X	X	X		
	10	0	1	X	X		

$$x = \bar{A}\bar{C}\bar{D} + CD + AD + BC$$

		CD				y	
		00	01	11	10		
AB							
	00	1	0	0	0		
	01	1	1	1	0		
	11	X	X	X	X		
	10	1	0	X	X		

$$y = BD + \bar{C}\bar{D}$$

		CD				z	
		00	01	11	10		
AB							
	00	1	0	0	1		
	01	0	0	1	1		
	11	X	X	X	X		
	10	1	1	X	X		

$$z = A + \bar{B}\bar{D} + BC$$