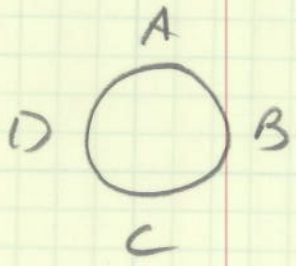
ELEC 311 | HW 3

(1)

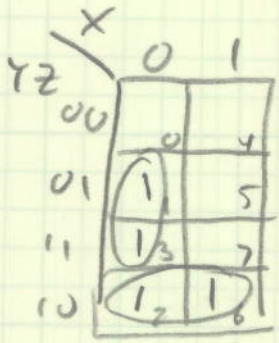
	A	B	C	D	F
0	0	0	0	0	0
1	0	0	0	1	0
2	0	0	1	0	0
3	0	0	1	1	0
4	0	1	0	0	0
5	0	1	0	1	1
6	0	1	1	0	0
7	0	1	1	1	1
8	1	0	0	0	0
9	1	0	0	1	0
10	1	0	1	0	1
11	1	0	1	1	1
12	1	1	0	0	0
13	1	1	0	1	1
14	1	1	1	0	1
15	1	1	1	1	1



$F = \Sigma m(5, 7, 10, 11, 13, 14, 15)$

$F = \Pi m(0, 1, 2, 3, 4, 6, 8, 9, 12)$

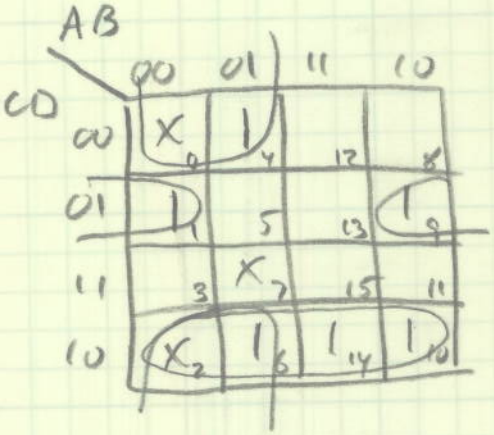
(2) $F(x, y, z) = \Sigma m(1, 2, 3, 6)$



$F = x'z + yz'$

(3) $F(A,B,C,D) = \Sigma m(1,4,6,9,10,14) + \Sigma d(0,2,7)$

a)



$F = A'D' + CD' + B'C'D$

b)

group 0	0	0000✓	0,1	000-	0,2,4,6 0--0
group 1	1	0001✓	0,2	00-0✓	
	2	0010✓	0,4	0-00✓	
	4	0100✓	1,9	-001	
group 2	6	0110✓	2,6	0-10✓	2,6,10,14 --10
	9	1001✓	2,10	-010✓	
	10	1010✓	4,6	01-0✓	
group 3	7	0111✓	6,7	011-	
	14	1110✓	6,14	-110✓	
			10,14	1-10✓	

PIs	ABCD		1 ✓	4 ✓	6 ✓mt	9 ✓	10 ✓	14 ✓
★ 0,2,4,6	0--0	$A'D'$		⊗	×			
★ 2,6,10,14	--10	CD'			×		⊗	⊗
0,1	000-	$A'B'C'$	×					
★ 1,9	-001	$B'C'D$	×			⊗		
6,7	011-	$A'BC$			×			

$F = A'D' + CD' + B'C'D$