

Keith A. Kuntz
 CS 42
 Assig. 3

1)

$$\bar{x}\bar{z} + y\bar{z} + xy\bar{z}$$

		Y			
		00	01	11	10
x	0	1			1
	1		1	1	

z

$$= \bar{x}\bar{z} + xy$$

2)

$$F(w, x, y, z) = \sum m(0, 2, 5, 6, 8, 10, 13, 14, 15)$$

		Y			
		00	01	11	10
w	00	1 ⁰			1 ²
	01		1 ⁵		1 ⁶
	11		1 ¹²	1 ¹³	1 ¹⁴
	10	1 ⁸			1 ¹⁰

z

$$= \bar{x}\bar{z} + y\bar{z} + wxz + x\bar{y}z$$

OR

$$= \bar{x}\bar{z} + y\bar{z} + wxy + x\bar{y}z$$

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3) $\overline{B}\overline{D} + ABD + \overline{A}BC$

AB \ CD		C			
		00	01	11	10
A	00	0 1	1	2	3 1
	01	4	5	6 1	7 1
	11	12	13 1	14 1	15
	10	8 1	9	10 1	11

D

$= \sum m(0, 2, 6, 7, 8, 10, 13, 15)$