5.3) $m_4 + m_5 + m_7 + m_{12} + m_{13} + m_{15}$ $\quad 2^4 = 16$

x_1x_0 \ x_3x_2	00	01	11	10
00	0 (0)	1 (4)	1 (12)	0 (8)
01	0 (1)	1 (5)	1 (13)	0 (9)
11	0 (3)	1 (7)	1 (15)	0 (11)
10	0 (2)	0 (6)	0 (14)	0 (10)

$\underline{SOP} = (X_0 * X_2) + (\overline{X_1} * X_2)$

$\underline{POS} = X_2 * (\overline{X_1} + X_0)$

- POS is SOP essentially but, product of sums w/ X_2 factored out

5.4) $m_0 + m_3 + m_4 + m_8 + D_2 + D_5 + D_7 + D_{10} + D_{13} + D_{15}$

x_1x_0 \ x_3x_2	00	01	11	10
00	1 (0)	1 (4)	0 (12)	1 (8)
01	0 (1)	DC (5)	DC (13)	0 (9)
11	1 (3)	DC (7)	DC (15)	0 (11)
10	DC (2)	0 (6)	0 (14)	DC (10)

$\underline{SOP} = (\overline{X_0} * \overline{X_2}) + (\overline{X_3} * \overline{X_1} * \overline{X_0}) + (\overline{X_3} * \overline{X_2} * X_1)$

$\underline{POS} = (\overline{X_2} + \overline{X_3}) * (\overline{X_0} + X_1) * (\overline{X_3} + \overline{X_0}) * (\overline{X_2} + \overline{X_1})$

5.5) $m_1 + m_3 + m_7 + m_9 + m_{11} + m_{15} + m_{17} + m_{19} + m_{25} + m_{27} + D_4 + D_6 + D_{12} + D_{14} + D_{16} + D_{18} + D_{20} + D_{22} + D_{24} + D_{26} + D_{28} + D_{30}$

x_1x_0 \ x_3x_2	00	01	11	10
00	0 (0)	DC (4)	DC (12)	0 (8)
01	1 (1)	0 (5)	0 (13)	1 (9)
11	1 (3)	1 (7)	1 (15)	1 (11)
10	0 (2)	DC (6)	DC (14)	0 (10)
00	DC (16)	DC (20)	DC (28)	DC (24)
01	1 (17)	0 (21)	0 (29)	1 (25)
11	1 (19)	0 (23)	0 (31)	1 (27)
10	DC (18)	DC (22)	DC (30)	DC (26)

$\underline{SOP} = (X_0 * \overline{X_2}) + (X_2)$

$\underline{POS} = (\overline{X_2} + X_1) * (X_2 + \overline{X_1}) * (\overline{X_2} + \overline{X_0})$