

SUM of PRODUCTS

Map

	$\overline{D}.\overline{E}.\overline{F}$	$\overline{D}.\overline{E}.F$	$\overline{D}.E.\overline{F}$	$\overline{D}.E.F$	$D.\overline{E}.\overline{F}$	$D.\overline{E}.F$	$D.E.\overline{F}$	$D.E.F$
$\overline{A}.\overline{B}.\overline{C}$	1	1	1	1	1	1	1	1
$\overline{A}.\overline{B}.C$	1	1	1	1	1	1	1	1
$\overline{A}.B.\overline{C}$	0	1	1	0	1	1	0	0
$\overline{A}.B.C$	0	1	1	0	1	1	0	0
$A.\overline{B}.\overline{C}$	0	0	0	0	0	0	0	0
$A.\overline{B}.C$	1	1	1	1	1	1	1	1
$A.B.\overline{C}$	1	1	1	1	1	1	1	1
$A.B.C$	0	1	1	0	1	1	0	0

Map Layout

	$\overline{D}.\overline{E}.\overline{F}$	$\overline{D}.\overline{E}.F$	$\overline{D}.E.\overline{F}$	$\overline{D}.E.F$	$D.\overline{E}.\overline{F}$	$D.\overline{E}.F$	$D.E.\overline{F}$	$D.E.F$
$\overline{A}.\overline{B}.\overline{C}$	0	1	3	2	4	5	7	6
$\overline{A}.\overline{B}.C$	8	9	11	10	12	13	15	14
$\overline{A}.B.\overline{C}$	24	25	27	26	28	29	31	30
$\overline{A}.B.C$	16	17	19	18	20	21	23	22
$A.\overline{B}.\overline{C}$	32	33	35	34	36	37	39	38
$A.\overline{B}.C$	40	41	43	42	44	45	47	46
$A.B.\overline{C}$	56	57	59	58	60	61	63	62
$A.B.C$	48	49	51	50	52	53	55	54

Groups

(0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15)	$\overline{A}.\overline{B}$
(40,41,42,43,44,45,46,47,56,57,58,59,60,61,62,63)	$A.C$
(17,19,25,27,49,51,57,59)	$B.\overline{D}.F$
(20,21,28,29,52,53,60,61)	$B.D.\overline{E}$

$$y = A'B' + AC + BD'F + BDE'$$

A \overline{A} B \overline{B} C \overline{C} D \overline{D} E \overline{E} F \overline{F}

A A̅ B B̅ C C̅ D D̅ E E̅ F F̅

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Truth Table

	A	B	C	D	E	F	Y
0	0	0	0	0	0	0	1
1	0	0	0	0	0	1	1
2	0	0	0	0	1	0	1
3	0	0	0	0	1	1	1
4	0	0	0	1	0	0	1
5	0	0	0	1	0	1	1
6	0	0	0	1	1	0	1
7	0	0	0	1	1	1	1
8	0	0	1	0	0	0	1
9	0	0	1	0	0	1	1
10	0	0	1	0	1	0	1
11	0	0	1	0	1	1	1
12	0	0	1	1	0	0	1
13	0	0	1	1	0	1	1
14	0	0	1	1	1	0	1
15	0	0	1	1	1	1	1
16	0	1	0	0	0	0	0
17	0	1	0	0	0	1	1

18	0	1	0	0	1	0	0
19	0	1	0	0	1	1	1
20	0	1	0	1	0	0	1
21	0	1	0	1	0	1	1
22	0	1	0	1	1	0	0
23	0	1	0	1	1	1	0
24	0	1	1	0	0	0	0
25	0	1	1	0	0	1	1
26	0	1	1	0	1	0	0
27	0	1	1	0	1	1	1
28	0	1	1	1	0	0	1
29	0	1	1	1	0	1	1
30	0	1	1	1	1	0	0
31	0	1	1	1	1	1	0
32	1	0	0	0	0	0	0
33	1	0	0	0	0	1	0
34	1	0	0	0	1	0	0
35	1	0	0	0	1	1	0
36	1	0	0	1	0	0	0
37	1	0	0	1	0	1	0
38	1	0	0	1	1	0	0
39	1	0	0	1	1	1	0
40	1	0	1	0	0	0	1
41	1	0	1	0	0	1	1
42	1	0	1	0	1	0	1
43	1	0	1	0	1	1	1
44	1	0	1	1	0	0	1
45	1	0	1	1	0	1	1
46	1	0	1	1	1	0	1
47	1	0	1	1	1	1	1
48	1	1	0	0	0	0	0
49	1	1	0	0	0	1	1
50	1	1	0	0	1	0	0
51	1	1	0	0	1	1	1
52	1	1	0	1	0	0	1
53	1	1	0	1	0	1	1
54	1	1	0	1	1	0	0
55	1	1	0	1	1	1	0
56	1	1	1	0	0	0	1
57	1	1	1	0	0	1	1
58	1	1	1	0	1	0	1
59	1	1	1	0	1	1	1
60	1	1	1	1	0	0	1

61	1	1	1	1	0	1	1
62	1	1	1	1	1	0	1
63	1	1	1	1	1	1	1