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# **SUM of PRODUCTS**

## Map

	$\overline{\mathrm{C.D}}$	$\overline{\mathrm{C}}.\mathrm{D}$	C.D	$C.\overline{D}$
$\overline{\mathrm{A.B}}$	X	X	X	X
$\overline{A}$ .B	X	X	X	X
A.B	X	X	X	X
$A.\overline{B}$	X	X	X	X

## **Map Layout**

	$\overline{\text{C.D}}$	$\overline{\mathrm{C}}.\mathrm{D}$	C.D	$C.\overline{D}$
$\overline{A}.\overline{B}$	0	1	3	2
$\overline{A}$ .B	4	5	7	6
A.B	12	13	15	14
$A.\overline{B}$	8	9	11	10

## Groups

$$y = 0y = 1$$

### **Truth Table**

	A	В	C	D	Y
0	0	0	0	0	X
1	0	0	0	1	X
2	0	0	1	0	X
3	0	0	1	1	X
4	0	1	0	0	X
5	0	1	0	1	X
6	0	1	1	0	X
7	0	1	1	1	X

8	1	0	0	0	X
9	1	0	0	1	X
10	1	0	1	0	X
11	1	0	1	1	X
12	1	1	0	0	X
13	1	1	0	1	X
14	1	1	1	0	X
15	1	1	1	1	X

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