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# SUM of PRODUCTS

## Map

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

## Map Layout

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

(4,5,6,7,12,13,14,15)	B
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y = B

A  $\overline{A}$  B  $\overline{B}$  C  $\overline{C}$  D  $\overline{D}$

**Truth Table**

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Y</b>
0	0	0	0	0	0
1	0	0	0	1	x
2	0	0	1	0	0
3	0	0	1	1	x
4	0	1	0	0	x
5	0	1	0	1	x
6	0	1	1	0	1
7	0	1	1	1	x
8	1	0	0	0	0
9	1	0	0	1	x
10	1	0	1	0	0
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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