

SUM of PRODUCTS

Map

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

Map Layout

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

Groups

(1,3,5,7)	$\overline{A}.D$
(3,7,11,15)	$C.D$
(12,13)	$A.B.\overline{C}$

$$y = A'D + CD + ABC'$$

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

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



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

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Truth Table

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