



Truth Table for function f (A, B, C, D):

A	B	C	D	f
0	0	0	0	0
0	0	0	1	1
0	0	1	0	1
0	0	1	1	0
0	1	0	0	1
0	1	0	1	0
0	1	1	0	1
0	1	1	1	0
1	0	0	0	1
1	0	0	1	0
1	0	1	0	0
1	0	1	1	1
1	1	0	0	0
1	1	0	1	1
1	1	1	0	0
1	1	1	1	1

$$a) f = (B + C + D)(B + \bar{C} + \bar{D})(\bar{B} + C + \bar{D})(\bar{B} + \bar{C} + D)$$

$$b) f' = B\bar{C}\bar{D} + BCD + \bar{B}\bar{C}D + \bar{B}C\bar{D}$$

opposite,

$$f = B(\bar{C} \odot D) + \bar{B}(C \oplus D) = B \oplus (C \odot D)$$

$$f' = (B \oplus C) \oplus D$$

← simple, →