

$$A = abcd$$

$$B = \bar{a}\bar{b}cd + \bar{a}bcd$$

$$C = \bar{a}\bar{b}\bar{c}d + \bar{a}bcd$$

A

		cd			
		00	01	11	10
ab	00				
	01				
	11			1	
	10				

$$A = abcd$$

Handwritten Karnaugh map for variables a, b, c, d .

Columns (top): cd (00, 01, 11, 10)

Rows (left): ab (00, 01, 11, 10)

Map content:

	00	01	11	10
00			1	
01			1	
11				
10				

The two 1s in the column $cd=11$ are circled together, indicating a group.

$$B = \bar{a}cd$$

Handwritten Karnaugh map for variables a, b, c, d .

The map is a 4x4 grid with rows labeled ab (00, 01, 11, 10) and columns labeled cd (00, 01, 11, 10).

The cells containing 1s are:

- Row $ab=00$, Column $cd=01$ (Cell 0001)
- Row $ab=01$, Column $cd=11$ (Cell 0111)

A red circle highlights the two 1s, indicating a group for simplification.

		cd			
		00	01	11	10
ab	00		1		
	01			1	
	11				
	10				

Can't
Simplify
Diagonal

$$B = \bar{a}cd$$

$$C = \bar{a}\bar{b}\bar{c}d + \bar{a}bcd$$