

## Truth table

$\bar{a}$	$\bar{b}$	$\bar{c}$	$\bar{d}$	$\bar{e}$	$\bar{f}$	$\bar{g}$
0	0	0	1	1	1	1
0	0	1	0	1	1	0
0	1	0	1	1	0	1
0	1	1	1	1	1	0
1	0	0	0	1	1	0
1	0	1	1	0	1	1
1	1	0	1	0	1	1
1	1	1	1	1	1	0

$$\overbrace{(\bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c})}^{\underline{a}}$$

$$\bar{b}(\bar{a} \cdot \bar{b} + \bar{a} \cdot \bar{b})$$

$$\overbrace{(\bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c})}^{\underline{b}}$$

$$\bar{b}(\bar{a} \cdot \bar{b} + \bar{a} \cdot \bar{b})$$

$$\overbrace{(\bar{a} \cdot \bar{b} \cdot \bar{c})}^{\underline{c}}$$

$$\overbrace{(\bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c})}^{\underline{d}}$$

$$\overbrace{\bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c}}^{\underline{e}}$$

$$\bar{a} \cdot \bar{b} + \bar{a} \cdot \bar{b} \cdot \bar{c} = \bar{a}(\bar{b} + \bar{b} \cdot \bar{c})$$

$$\overbrace{\bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c}}^{\underline{f}}$$

$$\bar{a}(\bar{b} + \bar{b} \cdot \bar{c}) + \bar{a}(\bar{b} \cdot \bar{c} + \bar{b} \cdot \bar{c})$$

$$\overbrace{(\bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c} + \bar{a} \cdot \bar{b} \cdot \bar{c})}^{\underline{g}}$$

$$\bar{a} \cdot \bar{b} + \bar{a} \cdot \bar{b} \cdot \bar{c}$$

