

Resolução sobre 5

1.

	X		Y		
A	B	A · B	$\bar{A} \cdot \bar{B}$	X+Y	$\overline{X+Y}$
0	0	0	1	1	0
0	1	0	0	0	1
1	0	0	0	0	1
1	1	1	0	1	0

Usando as leis de De Morgan

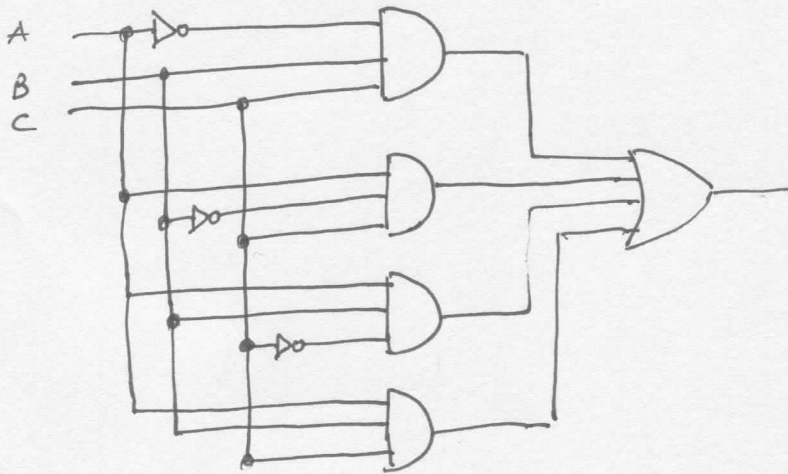
$$\overline{A+B} = \bar{A} \cdot \bar{B}$$

$$\overline{A \cdot B + \bar{A} \cdot \bar{B}} = \overline{A \cdot B} \cdot \overline{\bar{A} \cdot \bar{B}} = \overline{A \cdot B} \cdot A + B$$

	X		Y		
A	B	A · B	A+B	X · Y	
0	0	1	0	0	
0	1	1	1	1	
1	0	1	1	1	
1	1	0	1	0	

iguais

2.



3.

	X		Y		
A	B	A+B	A · B	X+Y	
0	0	1	0	1	
0	1	0	0	0	
1	0	0	0	0	
1	1	0	1	1	

é o complementar do ou-exclusivo

4. a) $Z = (AB + BC + ABC) \cdot \bar{C} = AB\bar{C} + 0 + 0 = A \cdot B \cdot \bar{C}$

b) $Z = (A+B) \cdot (A+C) = (A+B)A + (A+B)C = A \cdot A + AB + AC + BC = A + AB + AC + BC = A + AC + BC$

c) $Z = A \cdot 1 + \bar{A} \cdot 1 + B \cdot 0 = A + \bar{A} = 1$