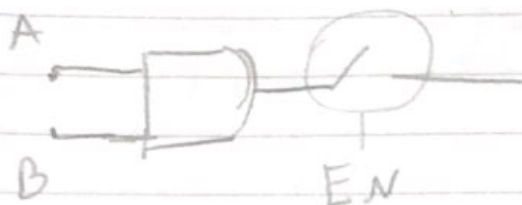


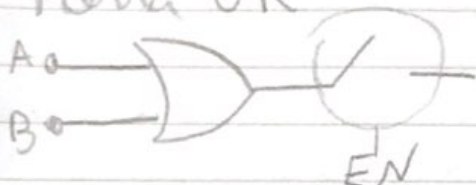
# 1) Porta AND



A	B	EN
0	0	0
0	1	0
1	0	0
1	1	1

Somente quando A e B forem 1, o sinal de comando (EN) irá ser 1 também, fechando a chave.

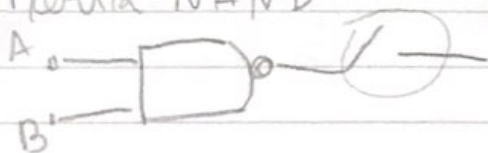
## Porta OR



A	B	EN
0	0	0
0	1	1
1	0	1
1	1	1

Quando A ou B estiverem com valor 1, o sinal EN irá se tornar 1 (ambos juntos também)

## Porta NAND



A	B	EN
0	0	1
0	1	1
1	0	1
1	1	0

Apenas quando ambos A e B forem 1 que o sinal não será verdadeiro

## Porta NOR



A	B	EN	Somente quando ambos A e B forem 0 que o sinal EN será 1.
0	0	1	
0	1	0	
1	0	0	
1	1	0	

$$2) a) S = ABC + A\bar{C} + A\bar{B}$$

$$S = ABC + A(\bar{C} + \bar{B}) \text{ Distributiva}$$

$$S = A(\underline{BC} + \underline{\bar{C}} + \underline{\bar{B}}) \text{ Distributiva}$$

$$S = A //$$

$$b) S = \bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}C$$

$$S = \bar{A}\bar{C}(\bar{B} + B) + A\bar{B}C \text{ Distributiva}$$

$$S = \bar{A}\bar{C} + A\bar{B}C //$$

$$c) S = \bar{A}\bar{B}\bar{C} + \bar{A}BC + \bar{A}B\bar{C} + AB\bar{C}$$

$$S = \bar{C}(\bar{A}\bar{B} + AB) + \bar{A}B(\bar{C} + C) \text{ Distributiva}$$

$$S = \bar{C} + \bar{A}B //$$

$$3) Y = \bar{A}BC \cdot \overline{(D+A)}$$

$$a) Y = \bar{A}BC \cdot \bar{D} \cdot \bar{A} \text{ De Morgan}$$

$$Y = \bar{A}BC\bar{D} //$$

$$b) \overline{(A+B)(C+D)}E$$

$$S_2 = (\overline{AC + BC} + D)E$$

$$S_2 = ((\bar{A}\bar{C} \cdot \bar{B}\bar{C}) + D)E$$

$$S_2 = (\bar{A}\bar{C} + D)(\bar{B}\bar{C} + D)E //$$