DeMorgan's Theorems

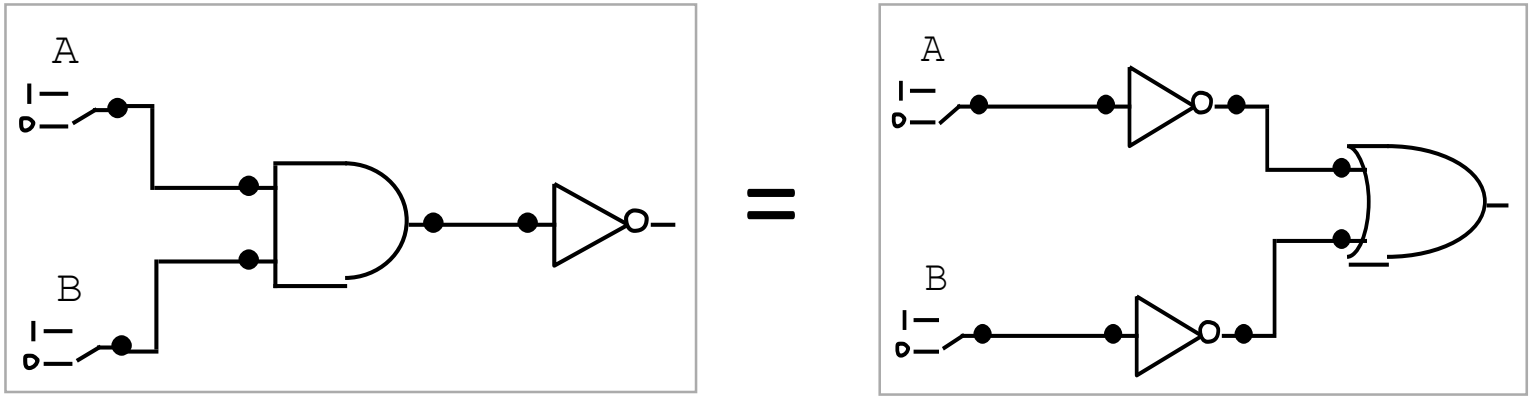
DeMorgan's Theorem #1

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

A	B	A • B	$\overline{A \cdot B}$		A	B	$\overline{A} + \overline{B}$
0	0	0	1		1	1	1
0	1	0	1		1	0	1
1	0	0	1		0	1	1
1	1	1	0		0	0	0

EQUAL

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

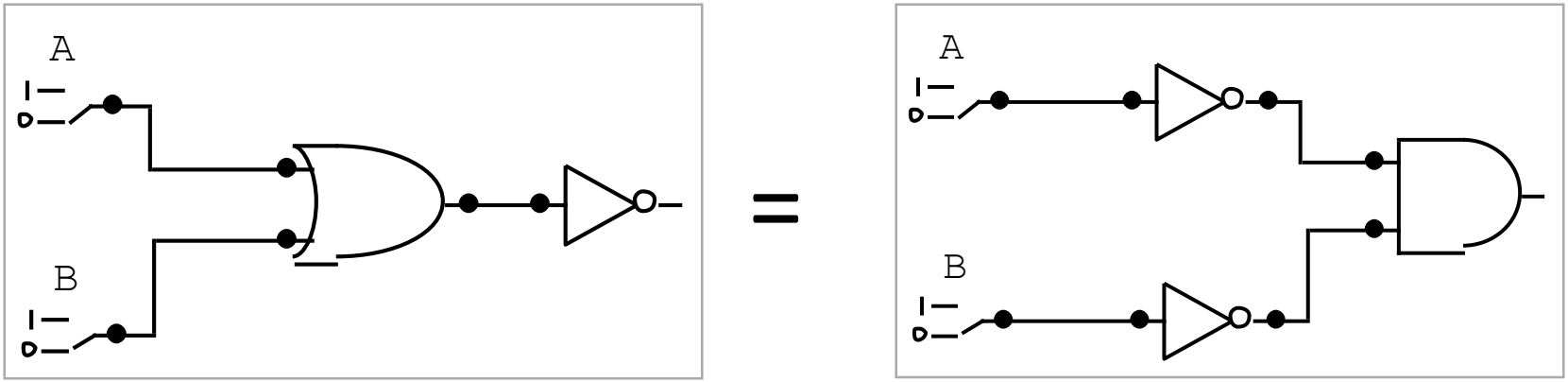


Invert output of an AND gate

Invert the inputs of an OR gate

DeMorgan's Theorem #2

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



Invert output of an OR gate

Invert the inputs of an AND gate

THANK YOU