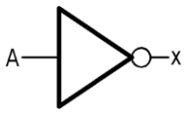
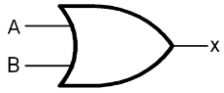
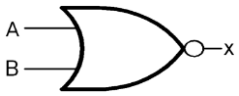
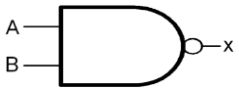
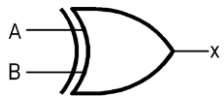
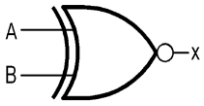
FORMULAS

Compuertas lógicas

Compuerta	Símbolo	Expresión lógica	Tabla de verdad
NOT		$x = A'$	A | x 0 | 1 1 | 0
OR		$x = A + B$	A | B | x 0 | 0 | 0 0 | 1 | 1 1 | 0 | 1 1 | 1 | 1
AND		$x = A \cdot B$	A | B | x 0 | 0 | 0 0 | 1 | 0 1 | 0 | 0 1 | 1 | 1
NOR		$x = (A + B)'$	A | B | x 0 | 0 | 1 0 | 1 | 0 1 | 0 | 0 1 | 1 | 0
NAND		$x = (A \cdot B)'$	A | B | x 0 | 0 | 1 0 | 1 | 1 1 | 0 | 1 1 | 1 | 0
XOR		$x = A \oplus B$	A | B | x 0 | 0 | 0 0 | 1 | 1 1 | 0 | 1 1 | 1 | 0

XNOR		$x = (A \oplus B)'$	<table><tr><th>A</th><th>B</th><th>x</th></tr><tr><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td><td>1</td></tr></table>

Algebra de Boole

Identidades booleanas		
Ley	**Identidad**	
Doble negación	$x'' = x$	
Idempotencia	$x \cdot x = x$	$x + x = x$
Identidad	$x \cdot 1 = x$	$x + 0 = x$
Dominación	$x \cdot 0 = 0$	$x + 1 = 1$
Conmutativa	$x \cdot y = y \cdot x$	$x + y = y + x$
Asociativa	$x \cdot (y \cdot z) = (x \cdot y) \cdot z$	$x + (y + z) = (x + y) + z$
Distributiva	$x \cdot (y + z) = x \cdot y + x \cdot z$	$x + y \cdot z = (x + y) \cdot (x + z)$
Complemento	$x \cdot x' = 0$	$x + x' = 1$
Absorción	$x \cdot (x + y) = x$	$x + x \cdot y = x$
De Morgan	$(x \cdot y)' = x' + y'$	$(x + y)' = x' \cdot y'$