NOT

Schematic Symbol

$Z = \bar{A}$

Logic Expression

A	Z
0	1
1	0

Truth Table

AND

$Z = AB$

A	B	Z
0	0	0
0	1	0
1	0	0
1	1	1

OR

$Z = A + B$

A	B	Z
0	0	0
0	1	1
1	0	1
1	1	1

XOR

$Z = A \oplus B$

A	B	Z
0	0	0
0	1	1
1	0	1
1	1	0

The Basic Logic Operations

◇ Each logic operation can be represented using:
a *schematic symbol (gate)*,
a *logic expression,*
or a *truth table*.

NAND

$Z = \overline{AB}$

A	B	Z
0	0	1
0	1	1
1	0	1
1	1	0

NOR

$Z = \overline{A + B}$

A	B	Z
0	0	1
0	1	0
1	0	0
1	1	0

XNOR

$Z = \overline{A \oplus B}$

A	B	Z
0	0	1
0	1	0
1	0	0
1	1	1

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