

Laws and Rules of Boolean Algebra

Commutative Law	$A + B = B + A$	$A \cdot B = B \cdot A$
Associative Law	$A + (B + C) = (A + B) + C$	$A \cdot (B \cdot C) = (A \cdot B) \cdot C$
Distributive Law	$A \cdot (B + C) = A \cdot C + A \cdot B$	$A + B \cdot C = (A + B) \cdot (A + C)$
Null Elements	$A + 1 = 1$	$A \cdot 0 = 0$
Identity	$A + 0 = A$	$A \cdot 1 = A$
Idempotence	$A + A = A$	$A \cdot A = A$
Complement	$A + \bar{A} = 1$	$A \cdot \bar{A} = 0$
Involution	$\bar{\bar{A}} = A$	
Absorption (Covering)	$A + A \cdot B = A$	$A \cdot (A + B) = A$
Simplification	$A + \bar{A} \cdot B = A + B$	$A \cdot (\bar{A} + B) = A \cdot B$
DeMorgan's Rule	$\overline{A + B} = \bar{A} \cdot \bar{B}$	$\overline{A \cdot B} = \bar{A} + \bar{B}$
Logic Adjacency (Combining)	$A \cdot B + A \cdot \bar{B} = A$	$(A + B) \cdot (A + \bar{B}) = A$
Consensus	$A \cdot B + B \cdot C + \bar{A} \cdot C = A \cdot B + \bar{A} \cdot C$	$(A + B) \cdot (B + C) \cdot (\bar{A} + C) = (A + B) \cdot (\bar{A} + C)$