

Boolean Identities

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|-----------------------|---|--|
| Identity | $A + 0 = A$ | $A \cdot 1 = A$ |
| Dominance | $A + 1 = 1$ | $A \cdot 0 = 0$ |
| Idempotence | $A + A = A$ | $A \cdot A = A$ |
| Inverse | $A + \bar{A} = 1$ | $A \cdot \bar{A} = 0$ |
| Commutative | $A + B = B + A$ | $A \cdot B = B \cdot A$ |
| Associative | $A + (B + C) = (A + B) + C$ | $A \cdot (B \cdot C) = (A \cdot B) \cdot C$ |
| Distributive | $A \cdot (B + C) = A \cdot B + A \cdot C$ | $A + B \cdot C = (A + B) \cdot (A + C)$ |
| Absorption | $A \cdot (A + B) = A$ | $A + A \cdot B = A$ |
| DeMorgan's | $\overline{(A + B)} = \bar{A} \cdot \bar{B}$ | $\overline{(A \cdot B)} = \bar{A} + \bar{B}$ |
| Double Complement | $\bar{\bar{A}} = A$ | |
| FOIL | $(A + B) \cdot (C + D) = A \cdot C + A \cdot D + B \cdot C + B \cdot D$ | |
| Disappearing opposite | $A + \bar{A} \cdot B = A + B$ | |