

Identity

$$p \wedge T \equiv p$$
$$p \vee F \equiv p$$

Domination

$$p \vee T \equiv T$$
$$p \wedge F \equiv F$$

Idempotence

$$p \vee p \equiv p$$
$$p \wedge p \equiv p$$

Commutativity

$$p \wedge q \equiv q \wedge p$$
$$p \vee q \equiv q \vee p$$

Associativity

$$(p \wedge q) \wedge r \equiv p \wedge (q \wedge r)$$
$$(p \vee q) \vee r \equiv p \vee (q \vee r)$$

Double Negation

$$\sim(\sim p) \equiv p$$

Negation

$$p \vee \sim p \equiv T$$
$$p \wedge \sim p \equiv F$$

DeMorgan's

$$\sim(p \wedge q) \equiv \sim p \vee \sim q$$
$$\sim(p \vee q) \equiv \sim p \wedge \sim q$$

Absorption

$$p \vee (p \wedge q) \equiv p$$
$$p \wedge (p \vee q) \equiv p$$

Literal Negation

$$\sim T \equiv F$$
$$\sim F \equiv T$$

Distributivity

$$p \wedge (q \vee r) \equiv (p \wedge q) \vee (p \wedge r)$$
$$p \vee (q \wedge r) \equiv (p \vee q) \wedge (p \vee r)$$

Implication to Disjunction

$$p \rightarrow q \equiv q \vee \sim p$$

Iff to Implication

$$p \leftrightarrow q \equiv (p \rightarrow q) \wedge (q \rightarrow p)$$