

Commutative laws:

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

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

Associative laws:

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

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

Distributive laws:

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

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

Absorption laws:

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

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

Idempotent laws:

$$p \wedge p \equiv p$$

$$p \vee p \equiv p$$

Double negative law:

$$\sim \sim p \equiv p$$

DeMorgan's laws:

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

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

Negation laws:

$$p \vee \sim p \equiv T$$

$$p \wedge \sim p \equiv F$$

Universal bound laws:

$$p \vee T \equiv T$$

$$p \wedge F \equiv F$$

Identity laws:

$$p \wedge T \equiv p$$

$$p \vee F \equiv p$$

Tautology and contradiction laws:

$$\sim T \equiv F$$

$$\sim F \equiv T$$