It is neither raining nor snowing.

It is raining and not snowing.

It is both raining and snowing.

It is raining but not snowing.

It is either raining or snowing but not both.

| Commutative: | $p \wedge q \quad \equiv$ | $q \wedge p$ | $p \vee q \quad \equiv$ | $q \vee p$ |
| :---: | :---: | :---: | :---: | :---: |
| Associative: | $(p \wedge q) \wedge r \quad \equiv$ | $p \wedge(q \wedge r)$ | $(p \vee q) \vee r \quad \equiv$ | $p \vee(q \vee r)$ |
| Distributive: | $p \wedge(q \vee r) \equiv$ | $(p \wedge q) \vee(p \wedge r)$ | $p \vee(q \wedge r) \equiv$ | $(p \vee q) \wedge(p \vee r)$ |
| Absorption: | $p \wedge(p \vee q) \equiv$ | $p$ | $p \vee(p \wedge q) \equiv$ | $p$ |
| Idempotent: | $p \wedge p \equiv$ | $p$ | $p \vee p \equiv$ | $p$ |
| Double negative: | $\sim \sim p \quad \equiv$ | $p$ |  |  |
| DeMorgan's: | $\sim(p \wedge q) \equiv$ | $\sim p \vee \sim q$ | $\sim(p \vee q) \equiv$ | $\sim p \wedge \sim q$ |
| Negation: | $p \vee \sim p \quad \equiv$ | T | $p \wedge \sim p \quad \equiv$ | F |
| Universal bound: | $p \vee T \equiv$ | $T$ | $p \wedge F \equiv$ | $F$ |
| Identity: | $p \wedge T \equiv$ | $p$ | $p \vee F \equiv$ | $p$ |
| Taut/contra: | $\sim T \equiv$ | F | $\sim F \equiv$ | $T$ |

