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Laws of Equivalence

Idempotence	$p \wedge p$ is logically equivalent to p $p \vee p$ is logically equivalent to p
Identity	$p \wedge \mathit{true}$ is logically equivalent to p $p \vee \mathit{false}$ is logically equivalent to p
Domination	$p \wedge \mathit{false}$ is logically equivalent to false $p \vee \mathit{true}$ is logically equivalent to true
Commutativity	$p * q$ is logically equivalent to $q * p$, where $*$ can be either $\wedge$, $\vee$, $\oplus$, or $\leftrightarrow$, but not $\rightarrow$
Associativity	$p * (q * r)$ is logically equivalent to $(p * q) * r$, where $*$ can be either $\wedge$, $\vee$, $\oplus$, or $\leftrightarrow$, but not $\rightarrow$
Distributivity	$p \wedge (q \vee r)$ is logically equivalent to $(p \wedge q) \vee (p \wedge r)$ $p \vee (q \wedge r)$ is logically equivalent to $(p \vee q) \wedge (p \vee r)$
De Morgan's Laws	$\neg(p \wedge q)$ is logically equivalent to $\neg p \vee \neg q$ $\neg(p \vee q)$ is logically equivalent to $\neg p \wedge \neg q$
Absorption	$p \vee (p \wedge q)$ is logically equivalent to p $p \wedge (p \vee q)$ is logically equivalent to p
Double Negation	$\neg\neg p$ is logically equivalent to p
Excluded Middle	$p \wedge \neg p$ is logically equivalent to false $p \vee \neg p$ is logically equivalent to true
Definitions	$p \rightarrow q$ is logically equivalent to $\neg p \vee q$ $p \leftrightarrow q$ is logically equivalent to $(p \rightarrow q) \wedge (q \rightarrow p)$ $p \oplus q$ is logically equivalent to $(p \vee q) \wedge \neg(p \wedge q)$