Table of Logical Equivalences

Commutative	$p \wedge q \iff q \wedge p$	$p \vee q \iff q \vee p$
Associative	$(p \wedge q) \wedge r \iff p \wedge (q \wedge r)$	$(p \vee q) \vee r \iff p \vee (q \vee r)$
Distributive	$p \wedge (q \vee r) \iff (p \wedge q) \vee (p \wedge r)$	$p \vee (q \wedge r) \iff (p \vee q) \wedge (p \vee r)$
Identity	$p \wedge T \iff p$	$p \vee F \iff p$
Negation	$p \vee \sim p \iff T$	$p \wedge \sim p \iff F$
Double Negative	$\sim (\sim p) \iff p$	
Idempotent	$p \wedge p \iff p$	$p \vee p \iff p$
Universal Bound	$p \vee T \iff T$	$p \wedge F \iff F$
De Morgan's	$\sim (p \wedge q) \iff (\sim p) \vee (\sim q)$	$\sim (p \vee q) \iff (\sim p) \wedge (\sim q)$
Absorption	$p \vee (p \wedge q) \iff p$	$p \wedge (p \vee q) \iff p$
Conditional	$(p \implies q) \iff (\sim p \vee q)$	$\sim (p \implies q) \iff (p \wedge \sim q)$

Rules of Inference

Modus Ponens	$p \implies q$ p $\therefore q$	Modus Tollens	$p \implies q$ $\sim q$ $\therefore \sim p$
Elimination	$p \vee q$ $\sim q$ $\therefore p$	Transitivity	$p \implies q$ $q \implies r$ $\therefore p \implies r$
Generalization	$p \implies p \vee q$ $q \implies p \vee q$	Specialization	$p \wedge q \implies p$ $p \wedge q \implies q$
Conjunction	p q $\therefore p \wedge q$	Contradiction Rule	$\sim p \implies F$ $\therefore p$