Law of Inference	Schemata	
1. Law of Detachment	$p \rightarrow q$ $\underline{p}$ $\therefore q$	
2. Law of the Contrapositive	$\underline{p \rightarrow q}$ $\therefore \sim q \rightarrow \sim p$	
3. Law of *Modus Tollens*	$p \rightarrow q$ $\underline{\sim q}$ $\therefore \sim p$	
4. Chain Rule (Law of the Syllogism)	$p \rightarrow q$ $\underline{q \rightarrow r}$ $\therefore p \rightarrow r$	
5. Law of Disjunctive Inference	$p \vee q$ $\underline{\sim p}$ $\therefore q$	$p \vee q$ $\underline{\sim q}$ $\therefore p$
6. Law of the Double Negation	$\underline{\sim(\sim p)}$ $\therefore p$	
7. De Morgan's Law	$\underline{\sim(p \wedge q)}$ $\therefore \sim p \vee \sim q$	$\underline{\sim(p \vee q)}$ $\therefore \sim p \wedge \sim q$
8. Law of Simplification	$\underline{p \wedge q}$ $\therefore p$	$\underline{\sim(p \vee q)}$ $\therefore q$
9. Law of Conjunction	p $\underline{q}$ $\therefore p \wedge q$	
10. Law of Disjunctive Addition	$\underline{p}$ $\therefore p \vee q$	
11. Law of Conjunctive Argument	$\sim(p \wedge q)$ $\underline{p}$ $\therefore \sim q$	$\sim(p \wedge q)$ $\underline{q}$ $\therefore \sim p$

Table 3.8 Some Rules of Inference for Propositional Logic