Laws of logic

Law of Detachment:

Premise: If I play baseball, then I need a glove. $p \rightarrow q$
Premise: I play baseball p
Conclusion: $\therefore$

Law of Contrapositive: $p \rightarrow q$
$\therefore$

Law of Modus Tollens: $p \rightarrow q$
$\sim q$
$\therefore$

Chain Rule:

Premise: If today is Monday, then I go to school. $p \rightarrow q$
Premise: If I go to school, then I have homework. $q \rightarrow r$
Conclusion: $\therefore$

Law of Disjunctive Inference:

Premise: Mrs. Ryan has coffee or tea at every meal. $p \vee q$
Premise: Mrs. Ryan does not have coffee at dinner. $\sim q$
Conclusion: $\therefore$

Law of Double Negation: $\sim(\sim p) =$

DeMorgan's Laws: $\sim(p \vee q) =$
$\sim(p \wedge q) =$

Law of Simplification: $p \wedge q$ or $p \wedge q$
$\therefore p$ $\therefore q$

Law of Conjunction: p
q
$\therefore p \wedge q$

Law of Disjunctive Addition:

p

$\therefore p \vee q$