

Propositional Logic Rules	Coq tactic(s), commands, rules, etc.
\wedge -e1	destruct
\wedge -e2	destruct
\wedge -i	split
\vee -e	destruct
\vee -i1	left
\vee -i2	right
\rightarrow -i	intro / intros
\rightarrow -e	apply
$_ \mid _$ -i followed by $_ \mid _$ -e	contradiction
$p \vee \sim p$ (law of excluded middle)	generalize (classic p); intro.
$\sim \sim p \mid _ \vdash p$ (double negation elimination)	apply NNPP.
$_ \mid _ \mid _ \vdash p$ (bottom elimination)	elimtype False.
make-box	assert
Simple automatic uses of some of above	trivial, auto
Inductive Definitions and Proofs	
Make a standard (non-recursive) definition	Definition
Make an inductive/recursive definition	Inductive (for sets) or Fixpoint (for functions)
Take cases	destruct
Do proof by induction	induction
Equivalence of $(P = Q)$ and $(P \leftrightarrow Q)$	apply prop_ext
To go from $p \rightarrow q$ to $p \mid _ \vdash q$ (reverse \rightarrow -i)	revert
Predicate (first-order) logic	
$=$ -i (equality introduction)	reflexivity
$=$ -e (equality elimination)	rewrite (from left to right) rewrite <- (built in shortcut for from right to left) subst, congruence (powerful auto-rewrite tactics!)
\forall -i	intro / intros
\forall -e	apply (sometimes “generalize” is useful too)
\exists -i	exists
\exists -e	destruct