

Table 1: Some tautologies

$\phi \leftrightarrow \sim\sim\phi$	(double negation)
$(\phi \rightarrow \psi) \leftrightarrow (\sim\psi \rightarrow \sim\phi)$	(contraposition)
$((\phi \rightarrow \psi) \wedge (\psi \rightarrow \chi)) \rightarrow (\phi \rightarrow \chi)$	(syllogism)
$(\phi \rightarrow (\psi \rightarrow \chi)) \leftrightarrow ((\phi \wedge \psi) \rightarrow \chi)$	(import/export)
$(\phi \rightarrow (\psi \rightarrow \chi)) \leftrightarrow (\psi \rightarrow (\phi \rightarrow \chi))$	(permutation)
$((\phi \rightarrow \psi) \wedge (\phi \rightarrow \chi)) \leftrightarrow (\phi \rightarrow (\psi \wedge \chi))$	(composition)
$((\phi \rightarrow \chi) \wedge (\psi \rightarrow \chi)) \leftrightarrow ((\phi \vee \psi) \rightarrow \chi)$	(dilemma)
$((\phi \rightarrow \psi) \wedge (\psi \rightarrow \phi)) \leftrightarrow (\phi \leftrightarrow \psi)$	(biconditional)
$(\sim\phi \rightarrow \psi) \leftrightarrow (\phi \vee \psi)$	(disjunction)
$(\phi \rightarrow \sim\psi) \leftrightarrow \sim(\phi \wedge \psi)$	(negated conjunction)