

Validity

A valid argument is an argument in which the conclusion must be true whenever the hypothesis is true.

An argument is a set of statements in which one of the statements is the conclusion and the rest of the statements make up the hypothesis.

Let's look at the following truth table and determine if the argument $[(p \rightarrow q) \wedge q] \rightarrow p$ is valid or invalid.

We start with our simple truth values for p , q , $p \rightarrow q$, $(p \rightarrow q) \wedge q$, then we join that with our conclusion.

p	q	$p \rightarrow q$	$(p \rightarrow q) \wedge q$	$[(p \rightarrow q) \wedge q] \rightarrow p$
T	T	T	T	T
T	F	F	F	T
F	T	T	T	F
F	F	T	F	T

Notice, the last column has all the statements combined in the hypothesis in brackets. Since I have an “F” in this last column, that argument is invalid.

