

The **hypothesis** of $p \rightarrow q$ is _____ The **antecedent** of $p \rightarrow q$ is _____

The **conclusion** of $p \rightarrow q$ is _____ The **consequent** of $p \rightarrow q$ is _____

The only way to make the conditional statement $p \rightarrow q$ false is to _____

Input		Output				
p	q	Conjunction $p \wedge q$	Exclusive or $p \oplus q$	Disjunction $p \vee q$	Conditional $p \rightarrow q$	Biconditional $p \leftrightarrow q$
T	T	T	F	T		
T	F	F	T	T		
F	T	F	T	T		
F	F	F	F	F		

The **converse** of $p \rightarrow q$ is _____

The **inverse** of $p \rightarrow q$ is _____

Which of these is logically equivalent to $p \rightarrow q$?

The **contrapositive** of $p \rightarrow q$ is _____

Translation: Express each of the following sentences as compound propositions, using the given propositions.

“A sufficient condition for the warranty to be good is that you bought the computer less than a year ago”
 w is “the warranty is good”
 b is “you bought the computer less than a year ago”

“Whenever the message was sent from an unknown system, it is scanned for viruses.”
 s is “The message is scanned for viruses”
 u is “The message was sent from an unknown system”

“I will complete my to-do list only if I put a reminder in my calendar”
 r is “I will complete my to-do list”
 c is “I put a reminder in my calendar”

Consistency:

Whenever the system software is being upgraded, users cannot access the file system. If users can access the file system, then they can save new files. If users cannot save new files, then the system software is not being upgraded.

1. Translate to symbolic compound propositions
2. Look for some truth assignment to the propositional variables for which all the compound propositions output T