

Math 2283 - Introduction to Logic

Quiz #5 - 2006.09.25

Solutions

Write out the truth tables for the following two wffs. Also state if each wff is consistent, inconsistent or valid.

1. $((P \wedge Q) \Leftrightarrow (\neg R \vee (P \Rightarrow Q)))$

P	Q	R	$((P \wedge Q) \Leftrightarrow (\neg R \vee (P \Rightarrow Q)))$
T	T	T	T
T	T	F	T
T	F	T	F
T	F	F	F
F	T	T	F
F	T	F	F
F	F	T	F
F	F	F	F

The wff is consistent.

2. $((P \wedge Q) \Leftrightarrow \neg R) \vee (P \Rightarrow Q)$

P	Q	R	$((P \wedge Q) \Leftrightarrow \neg R) \vee (P \Rightarrow Q)$
T	T	T	T
T	T	F	T
T	F	T	F
T	F	F	F
F	T	T	T
F	T	F	T
F	F	T	T
F	F	F	T

The wff is consistent.