

# Math 2283 - Introduction to Logic

Quiz #12 - 2008.12.03

Solutions

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Define the truth table for  $p \square q$  as follows:

$p$	$q$	$p \square q$
T	T	F
T	F	T
F	T	T
F	F	F

Determine by the method of truth tables if the following statement is a logical law.

$p$	$q$	$(p \rightarrow q)$	$\square$	$(q \rightarrow p)$	$\square$	$(p \leftrightarrow q)$
T	T	T	F	T	<b>T</b>	T
T	F	F	T	T	<b>T</b>	F
F	T	T	T	F	<b>T</b>	F
F	F	T	F	T	<b>T</b>	T

Since the last computed column (bold) is all true, the statement is indeed a logical law.