

Example 3

Select the statement below which best completes the following truth table. (This question is from the June 2014 Provincial Exam)

p	q	$p \wedge q$
True	True	True ✓
True	False	False ✓
False	True	False ✓
False	False	False

and
a) $p \wedge q$
Both must be True

or
b) $p \vee q$
one must be True

c) $p \Rightarrow q$
TT T
FF T
FT T
TF F

$p \rightarrow q \rightarrow \text{True}$
 ~~$p \Leftrightarrow q$~~ $q \rightarrow p \text{ True}$

Example 4

Complete the final column in the truth table shown below. (Hint: Feel free to add columns if you think you need to!)

r	m	$\neg m$	$r \Leftrightarrow \neg m$
True	True	F	F
True	False	T	T
False	True	F	T
False	False	T	F

Both True \rightarrow GIP

$TF \rightarrow F$
 $TT \rightarrow T$
 $FF \rightarrow T$
 $FT \rightarrow F$
 $p \wedge q \rightarrow \text{True}$
 $\text{or } \neg p \text{ is true}$

Example 5

Complete the following truth table.

p	q	$p \wedge q$	$\sim p$	$(p \wedge q) \vee \sim p$
T	T	T	F	T
T	F	F	F	F
F	T	F	T	T
F	F	F	T	T

p must be T
 q must be T \rightarrow opp/next

OR

one has to be True

$TF \rightarrow T$
 $FF \rightarrow F$
 $FT \rightarrow T$
 $FT \rightarrow T$

Both p and q TRUE