

# Propositional Logic

## Solution 1

$$(a) p \wedge q \Rightarrow p$$

(b)

$p$	$q$	$p \Rightarrow q$
T	T	T
T	F	F
F	T	T
F	F	T

$$(c) \neg p \wedge q \Leftrightarrow \neg p \vee \neg q$$

## Solution 2

$$(a) p \vee q \wedge r \Leftrightarrow p \wedge r \vee q \wedge r$$

(b)

$p$	$q$	$p \Leftrightarrow q$
T	T	T
T	F	F
F	T	F
F	F	T

$$(c) p \Rightarrow q \Rightarrow r$$