Propositional Logic

Solution 1

(a)

$p \wedge q \Rightarrow p$

(b)

p	q	$\mathbf{p \Rightarrow q}$
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	$\mathbf{p \Leftrightarrow q}$
t	t	**t**
t	f	**f**
f	t	**f**
f	f	**t**

(c)

$p \Rightarrow (q \Rightarrow r)$