

Problem Set: Statement Forms

1 Find the truth-table for $\neg(p \vee (\neg q))$

p	q	$\neg q$	$(p \vee (\neg q))$	$\neg(p \vee (\neg q))$
T	T	F	T	F
T	F	T	T	F
F	T	F	F	T
F	F	T	T	F

2. Find the truth-table for $p \vee (q \wedge (\neg r))$

p	q	r	$\neg r$	$(q \wedge (\neg r))$	$p \vee (q \wedge (\neg r))$
T	T	T	F	F	T
T	T	F	T	T	T
T	F	T	F	F	T
T	F	F	T	F	T
F	T	T	F	F	F
F	T	F	T	T	T
F	F	T	F	F	F
F	F	F	T	F	F

3. Find the truth table for $(p \wedge q) \rightarrow \neg p$

p	q	$\neg p$	$(p \wedge q)$	$(p \wedge q) \rightarrow \neg p$
T	T	F	T	F
T	F	F	F	T
F	T	T	F	T
F	F	T	F	T

4. Find the truth table for $(p \vee q) \leftrightarrow (p \wedge q)$

p	q	$(p \vee q)$	$(p \wedge q)$	$\neg(p \wedge q)$	$(p \vee q) \leftrightarrow \neg(p \wedge q)$
T	T	T	T	F	F
T	F	T	F	T	T
F	T	T	F	T	T
F	F	F	F	T	F