

Truth Table for (a): $\neg Q \vee (P \rightarrow Q)$

P	Q	$\neg Q$	$P \rightarrow Q$	$\neg Q \vee (P \rightarrow Q)$
T	T	F	T	T
T	F	T	F	T
F	T	F	T	T
F	F	T	T	T

1. $\neg Q \vee (P \rightarrow Q)$ is a tautology, all values are true.

Truth Table for (b): $Q \wedge (P \wedge \neg Q)$

P	Q	$\neg Q$	$P \wedge \neg Q$	$Q \wedge (P \wedge \neg Q)$
T	T	F	F	F
T	F	T	T	F
F	T	F	F	F
F	F	T	F	F

1. $\neg Q \vee (P \rightarrow Q)$ is a contradiction, all values are false.