

35.

For parts (a) and (b) we have the following table (column four for part (a), column six for part (b)).

p	q	$\neg q$	$p \rightarrow \neg q$	$\neg P$	$\neg p \rightarrow q$
T	T	F	F	F	F
T	F	T	T	F	T
F	T	F	T	T	T
F	F	T	T	T	F

For parts (c) and (d) we have the following table (columns six and seven, respectively).

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

For parts (e) and (f) we have the following table (this time we have not explicitly shown the columns for negation). Column five shows the answer for part (e), and column seven shows the answer for part (f).

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

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