

(6) Show that $(p \rightarrow q) \rightarrow r$ and $p \rightarrow (q \rightarrow r)$ are not logically equivalent.

(7) Consider the following conditional statement.

$$[(p \vee q) \wedge (p \rightarrow r) \wedge (q \rightarrow r)] \rightarrow r$$

(i) Show that it is a tautology by using truth tables.

(ii) Show that it is a tautology without using truth tables.