

Spoush.  $\forall x (L(x) \vee \neg L(x))$  is a tautology.

Q2 → c)  $[p \rightarrow (q \rightarrow r)] \leftrightarrow [(p \wedge q) \rightarrow r]$

|   |   |   |   |   |   |  |   |  |   |  |
|---|---|---|---|---|---|--|---|--|---|--|
| V | V | V | V | V | V |  | V |  | V |  |
| V | F | V | F | F | V |  | V |  | F |  |
| V | V | F | V | V | V |  | F |  | V |  |
| V | V | F | V | F | V |  | F |  | V |  |
| F | V | V | V | V | V |  | F |  | V |  |
| F | V | V | F | F | V |  | F |  | V |  |
| F | V | F | V | V | V |  | F |  | V |  |
| F | V | F | V | F | V |  | F |  | V |  |