## Problem Set 04: PL Trees (Answers)

- 1. Use a tree to test whether the following are contraries. If they are not, then read a countermodel off the tree.
  - (a)  $(\neg(Q \land P) \land P), ((P \rightarrow P) \rightarrow Q)$
  - (b) Answer:

- 2. Use a tree to test whether the following argument is valid. If it is not, then read a countermodel off the tree.
  - (a)  $(((A \land B) \leftrightarrow \neg B) \leftrightarrow C)$ ,  $(((A \leftrightarrow B) \lor C) \land B)$ ,  $(((B \to B) \land B) \leftrightarrow \neg B)$
  - (b) Answer:

