(1) (15 points) Exercise 5.d,h (Lemmon p. 63)
(2) (16 points) Exercise 6 (Lemmon p. 63)
(3) (12 points) Decide whether each of the following well-formed formulas is
   tautologous, contingent or inconsistent. If contingent, then give two explicit
   truth-assignments to the propositional variables, one which makes
   the formula true and one which makes it false.
   (a) \( \neg (A \leftrightarrow B) \& (A \& B) \)
   (b) \( ((A \& B) \rightarrow C) \rightarrow ((A \rightarrow C) \& (B \rightarrow C)) \)
   (c) \( D \rightarrow (D \rightarrow E) \)
   (d) \( ((A \rightarrow B) \& (C \rightarrow D)) \rightarrow ((A \lor C) \rightarrow (B \lor D)) \)
(4) (30 points) Exercise 2 (Lemmon p. 73)
(5) (16 points) Exercise 3 (Lemmon p. 74)
(6) (11 points) Prove Peirce’s Law. That is,
   \[ \vdash ((P \rightarrow Q) \rightarrow P) \rightarrow P. \]