

Problem Set 2

Phil313Q

Due Sept. 20, 9:30am

For practice problems, see TLB p. 209 1–9

1 Derivations

Construct a derivation in SD proving the following claims.

1. $\{A \supset \sim B, \sim B \supset \sim C, C\} \vdash \sim A$
2. $\{A \& \sim A\} \vdash Z \equiv Q$
3. $\{\sim F \supset F, L \vee H, \sim H\} \vdash F \& L$
4. $\{(A \& B) \supset C, \sim (A \& B) \supset \sim C\} \vdash C \equiv (A \& B)$
5. $\{(A \vee B) \equiv C, \sim C\} \vdash \sim (A \vee B)$
6. $\{F \equiv G, F \vee G\} \vdash F \& G$
7. $\{A \supset B, B \supset (G \equiv D)\} \vdash A \supset (\sim D \supset \sim G)$
8. $\{(K \vee Z) \supset C, (D \vee E) \supset ((F \vee G) \supset Z)\} \vdash D \supset (F \supset C)$
9. $\emptyset \vdash (A \supset B) \supset (\sim B \supset \sim A)$
10. $\{A \vee (\sim A \equiv B)\} \vdash A \vee B$