

8.4 problems for Assignment 9

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Show that each of the following arguments is valid, using implicational rules from 8.1 and the rule of conditional proof. Substitution rules should not be needed. Your proof should consist of numbered lines, each with a justification based on previous lines and a rule.

1. $H \vee C, B \rightarrow \neg H \therefore B \rightarrow C$
2. $A \rightarrow C, B \rightarrow D, \neg C \wedge E \therefore (A \vee B) \rightarrow D$
3. $(F \vee C) \rightarrow B, (A \wedge B) \rightarrow D \therefore (A \wedge F) \rightarrow D$
4. $A \rightarrow B, B \rightarrow C \therefore A \rightarrow C$ (use conditional proof and modus ponens, NOT hypothetical syllogism; it will work!)