

Basic Proofs Prove the following.

1. $\{A \wedge (B \vee \neg C), \neg B \wedge (C \vee E), E \rightarrow D\} \vdash D$

Conditional Proofs Prove the following.

1. $\{B \rightarrow \neg E, A \rightarrow \neg D, D \vee (E \vee R), (R \wedge A) \rightarrow C\} \vdash A \rightarrow (B \rightarrow C)$

2. $\{(K \rightarrow K) \rightarrow R, (R \vee M) \rightarrow N\} \vdash N$

Reductio Ad Absurdum Prove the following.

1. $S \leftrightarrow T, T \vee S \vdash \neg(T \rightarrow \neg S)$

2. $Q \rightarrow R \vdash \neg Q \vee R$