

Proofs II

Construct proofs for each of the following arguments. First do these proofs without using conditional or indirect proof. Later, go back to these and do them with any strategy. Convention: "////" separates the premises from the conclusion.

Use the [general purpose proof form](#) or do these on paper.

1. $A \supset (B \equiv C), \sim B \vee A, \sim(\sim B \vee C) \text{ //// } C$
2. $(L \supset R) \supset (B \& C), \sim L \& (M \equiv P), (S \supset \sim B) \text{ //// } \sim S$
3. $(M \vee Q), \sim(Q \vee S), (M \supset \sim A) \text{ //// } (A \supset B)$
4. $(L \equiv B), (A \& L), ((A \& B) \supset \sim C) \text{ //// } \sim C$
5. $(A \vee (B \& C)), ((\sim A \supset B) \supset D), \sim D \vee (S \equiv Q) \text{ //// } (\sim Q \supset \sim S)$
6. $(A \vee B) \supset (C \& D), \sim D, \text{ //// } \sim A$
7. $(A \equiv B) \supset C, \sim(C \vee A), \text{ //// } B$
8. $(A \vee B) \supset \sim(C \vee D), (A \& E) \vee \sim F, F, \text{ //// } \sim C$
9. $(A \& B) \vee (C \& \sim D), A \supset \sim B, C \supset (D \vee F), \text{ //// } F$
10. $(P \& Q) \supset R, (S \& R) \supset T, (P \& S), (Q \vee R), \text{ //// } (R \vee T)$
11. $(F \& \sim G) \vee (T \& \sim W), (W \& H), \sim(F \supset G) \supset (H \supset \sim S), \text{ //// } \sim S$
12. $X \equiv \sim Y, (Y \vee Z) \supset T, \sim(T \vee W), \text{ //// } P \supset X$
13. $(\sim A \vee \sim B) \supset (\sim C \vee D), \sim C \supset (E \& F), E \& \sim(F \vee D), \text{ //// } A$
14. $F \equiv \sim D, D \supset C, \sim(B \vee C) \vee \sim(A \vee D), A, \text{ //// } F \vee G$
15. $A \supset \sim B, \sim C \supset B, \sim A \supset \sim C \text{ //// } A \equiv C$
16. $\sim(R \& M), \sim R \supset T, \sim M \supset O \text{ //// } T \vee O$

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