

- 8) 1.  $F \supset \sim G$   
 2.  $\sim F \supset (H \supset \sim G)$   
 3.  $(\sim I \vee \sim H) \supset \sim \sim G$   
 4.  $\sim I \therefore \sim H$   
 5.  $\sim I \vee \sim H$  — 4, simp  
 6.  $\sim \sim G$  — 3, 5, M.P  
 7.  $\sim F$  — 1, 6, M.T  
 8.  $H \supset \sim G$  — 2, 7, M.P  
 9.  $\sim H$  — 8, 6, M.T

- 9) 1.  $I \supset J$   
 2.  $I \vee (\sim K \cdot \sim J)$   
 3.  $L \supset \sim K$   
 4.  $\sim (I \cdot J) \therefore \sim L \vee \sim J$   
 5.  $I \supset (I \cdot J)$  — 1, simp  
 6.  $\sim I$  — 5, 4, M.T  
 7.  $\sim \sim K \cdot \sim \sim J$  — 2, 6, D.S  
 8.  $\sim \sim K$  — 7, simp  
 9.  $\sim L$  — 3, 8, M.T  
 10.  $\sim L \vee \sim J$  — 9, add

- 10) 1.  $(L \supset M) \supset (N \equiv O)$   
 2.  $(P \supset \sim A) \supset (M \equiv \sim A)$   
 3.  $\{ [(P \supset \sim A) \vee (R \equiv S)] \cdot (N \vee O) \} \supset [(R \equiv S) \supset (L \supset M)]$   
 4.  $(P \supset \sim A) \vee (R \equiv S)$   
 5.  $N \vee O \therefore (M \equiv \sim A) \vee (N \equiv O)$   
 6.  $[(P \supset \sim A) \vee (R \equiv S)] \cdot (N \vee O)$  — 4, 5, conj  
 7.  $(R \equiv S) \supset (L \supset M)$  — 3, 6, M.P  
 8.  $(R \equiv S) \supset (N \equiv O)$  — 7, 1, H.S  
 9.  $[(P \supset \sim A) \supset (M \equiv \sim A)] \cdot [(R \equiv S) \supset (N \equiv O)]$  — 2, 8, conj  
 10.  $(M \equiv \sim A) \vee (N \equiv O)$  — 9, 4, C.D