

Homework Handout #2 - Rules of Implication

**Instructions:** For each of the following arguments, determine which, if any, of the 8 Rules of Implication is being followed.

1.  $A \supset (B \cdot C)$   
 $\sim(B \cdot C)$   
 $\therefore \sim A$

7.  $S \vee \sim T$   
 $\sim \sim T$   
 $\therefore \sim S$

2.  $[(D \vee E) \supset F] \cdot [F \supset (G \equiv H)]$   
 $(D \vee E) \vee F$   
 $\therefore F \vee (G \equiv H)$

8.  $\sim U \equiv V$   
 $(\sim U \equiv V) \supset W$   
 $\therefore W$

3.  $I \supset \sim J$   
 $K \supset I$   
 $\therefore K \supset \sim J$

9.  $X \supset \sim Y$   
 $\sim Y \supset Z$   
 $\therefore (X \supset \sim Y) \cdot (\sim Y \supset Z)$

4.  $L$   
 $\sim M \cdot N$   
 $\therefore \sim(M \cdot N) \cdot L$

10.  $(A \vee \sim B) \vee \sim \sim C$   
 $\therefore A \vee \sim B$

5.  $O$   
 $\therefore O \cdot \sim O$

11.  $\sim[D \supset (E \vee F)]$   
 $[D \supset (E \vee F)] \vee [G \supset (E \cdot \sim F)]$   
 $\therefore [G \supset (E \cdot \sim F)]$

6.  $P$   
 $\therefore P \vee [Q \equiv (R \cdot \sim P)]$

12.  $[(G \vee H) \cdot I] \cdot (\sim I \equiv K)$   
 $\therefore (G \vee H) \cdot I$