

Philosophy 109, Modern Logic, Queens College
Russell Marcus, Instructor
email: philosophy@thatmarcusfamily.org
website: thatmarcusfamily.org/philosophy
Office phone: (718) 997-5287

Proofs to Review for Test on Chapter 7

I. Do without CP or IP

- 1) 1. $A \supset B$
 2. $(E \vee D) \supset \sim B$ / $A \supset (\sim E \cdot \sim D)$

- 2) 1. $\sim(G \cdot H) \supset I$
 2. $\sim(I \vee J)$
 3. $\sim J \supset F$ / $(F \cdot G) \cdot H$

- 3) 1. $P \vee O$
 2. $Q \supset \sim O$ / $\sim Q \vee P$

- 4) 1. $T \equiv V$
 2. $\sim T \vee \sim V$ / $\sim T$

- 5) 1. $(K \supset \sim M) \cdot [(L \cdot N) \supset \sim M]$
 2. $(K \vee L) \cdot (K \vee N)$ / $\sim M$

- 6) 1. $(X \vee Y) \cdot (Z \supset W)$
 2. $\sim(Y \cdot W)$ / $\sim(\sim X \cdot Z)$

- 7) 1. $X \vee Z$
 2. $Z \supset \sim Y$
 3. $X \supset Y$ / $\sim X \equiv Z$

- 8) 1. $A \supset B$
 2. $B \supset \sim A$
 3. $(A \vee D) \vee E$
 4. $(D \vee E) \supset F$ / F

II. You may use CP or IP, if you wish.

- 1) 1. $G \supset H$
 2. $G \supset I$ $\therefore G \supset (H \cdot I)$

- 2) 1. $J \equiv K$
 2. $K \equiv L$ $\therefore J \equiv L$

- 3) 1. M $\therefore N \supset \{O \supset \{P \supset [(M \cdot N) \cdot (O \cdot P)]\}\}$

- 4) $\therefore R \supset [(R \supset S) \supset S]$

- 5) 1. $D \supset E$
 2. $E \supset (F \cdot G)$
 3. $\sim F \vee \sim G$ $\therefore \sim D$

- 6) 1. $(P \vee Q) \vee (\sim R \vee S)$
 2. $\sim Q \cdot (\sim S \cdot \sim P)$ $\therefore \sim R$

- 7) $\therefore A \vee \sim A$

- 8) $\therefore A \vee [(\sim A \vee B) \cdot (\sim A \vee C)]$