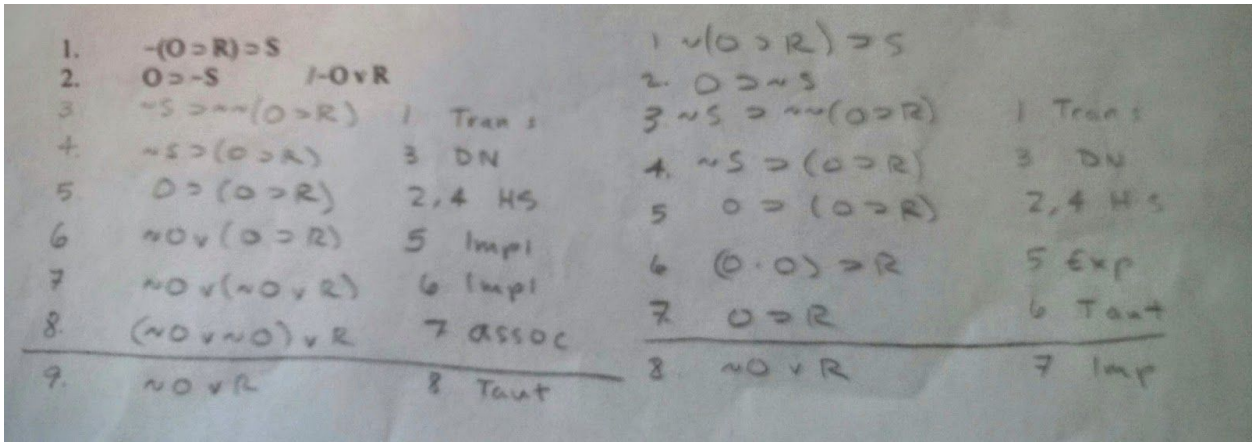
Practice Final Answer Key

18 Rules:

Use the 18 rules of inference to derive the conclusion of the following arguments. Do **not** use either conditional proof or indirect proof.

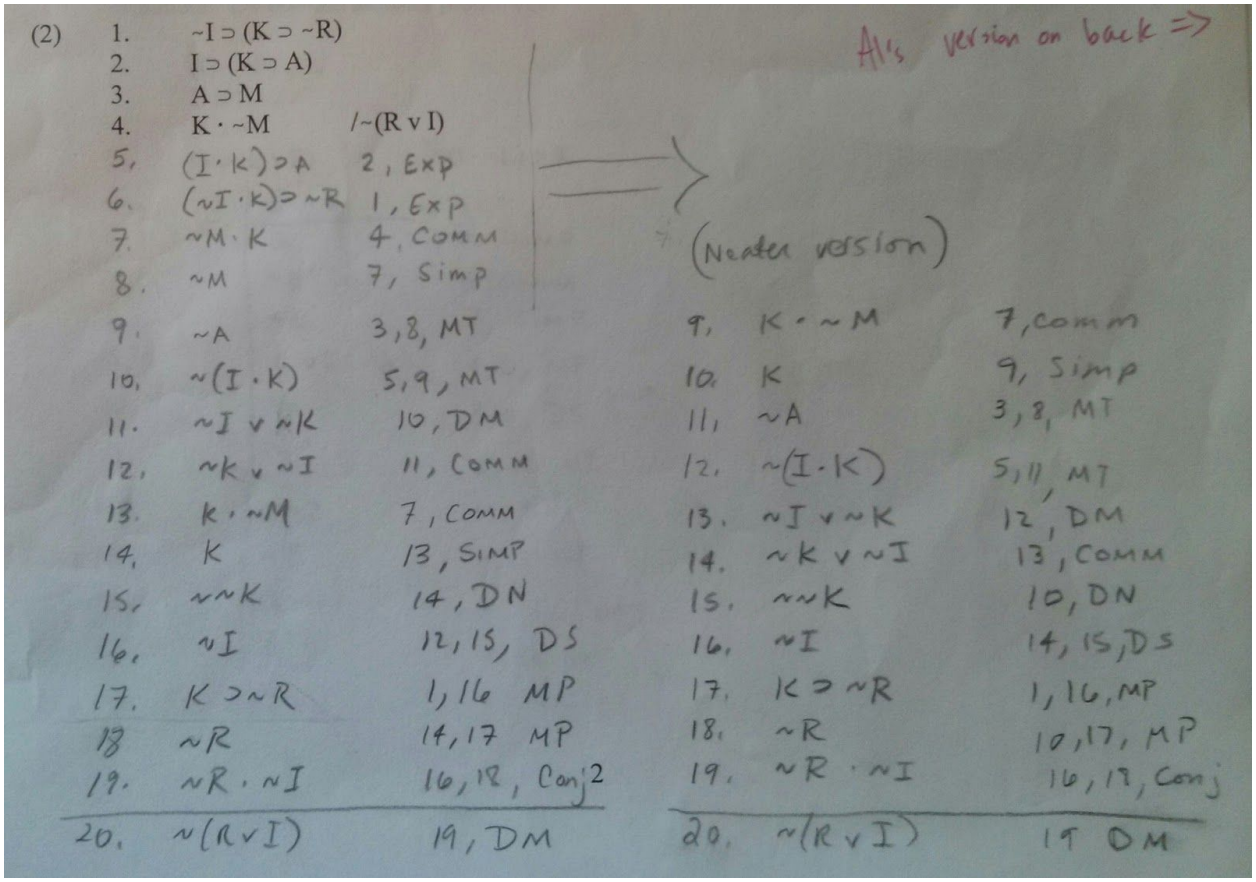
c. (10 pts)

1. ~(O ⊃ R) ⊃ S
2. O ⊃ ~S / ~O v R



d. (20 pts)

1. ~I ⊃ (K ⊃ ~R)
2. I ⊃ (K ⊃ A)
3. A ⊃ M
4. K • ~M / ~(R v I)

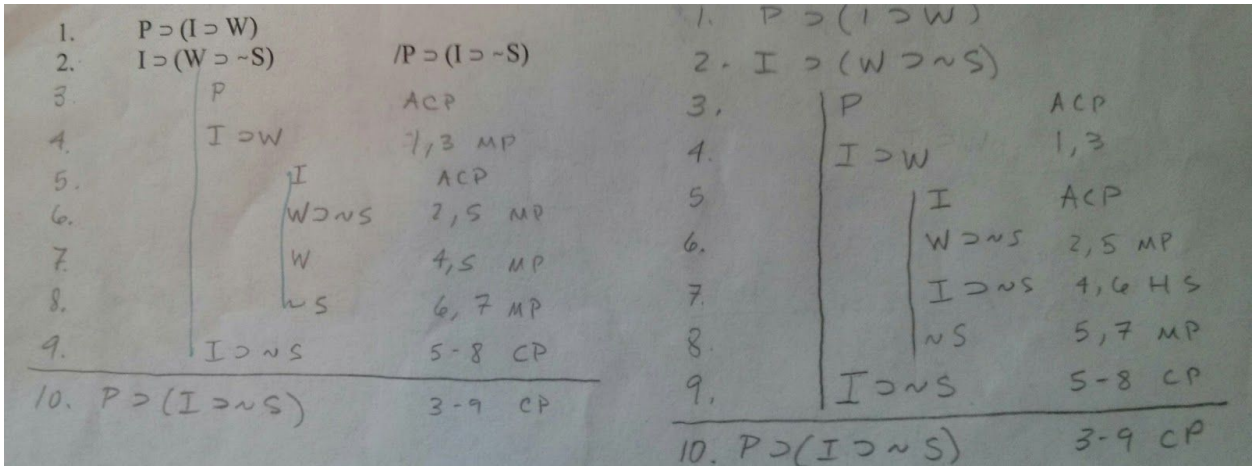


Conditional Proof:

Use the 18 rules of inference and the conditional proof method to derive the conclusion of the following arguments. Do **not** use indirect proof.

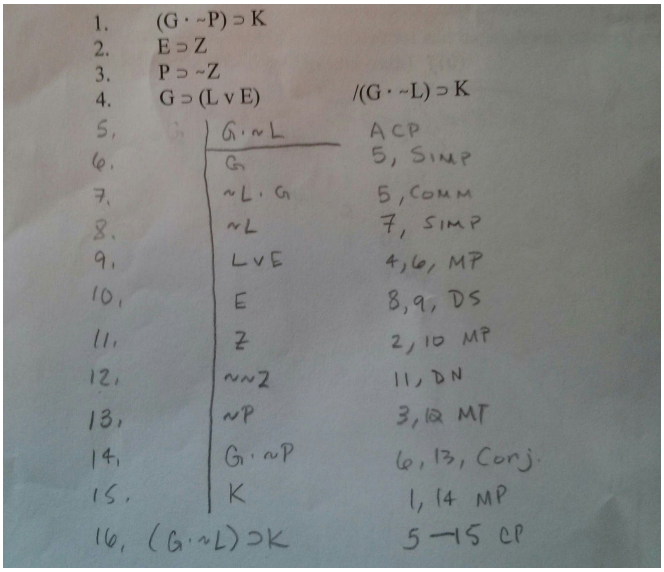
e. (10 pts)

1. P ⊃ (I ⊃ W)
2. I ⊃ (W ⊃ ~S) / P ⊃ (I ⊃ ~S)



f. (25 pts)

1. (G • ~P) ⊃ K
2. E ⊃ Z
3. P ⊃ ~Z
4. G ⊃ (L v E) / (G • ~L) ⊃ K

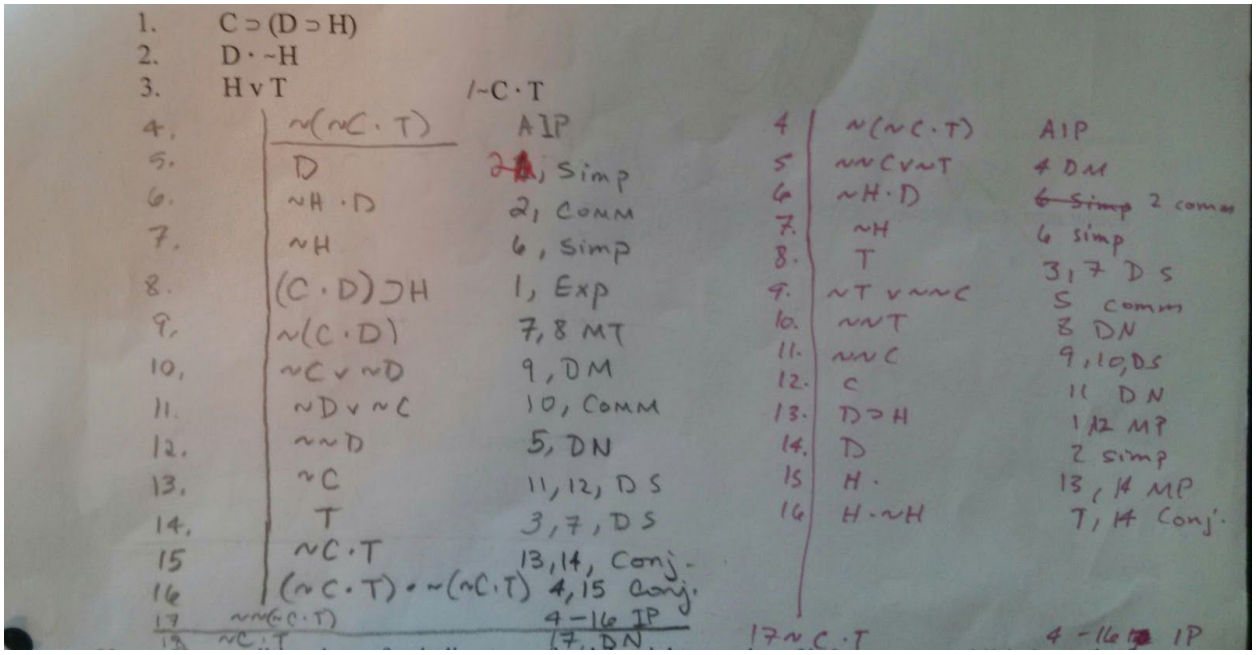


Indirect Proof:

Use the 18 rules of inference and the indirect proof method to derive the conclusion of the following arguments. Do **not** use conditional proof.

g. (25 pts)

1. C ⊃ (D ⊃ H)
2. D • ~H
3. H v T / ~C • T


1. C ⊃ (D ⊃ H)
2. D · ~H
3. H v T
/ ~C · T
4. ~(~C · T) AIP
5. D 2, Simp
6. ~H · D 2, Comm
7. ~H 6, Simp
8. (C · D) ⊃ H 1, Exp
9. ~(C · D) 7, 8 MT
10. ~C v ~D 9, DM
11. ~D v ~C 10, Comm
12. ~~D 5, DN
13. ~C 11, 12, DS
14. T 3, 7, DS
15 ~C · T 13, 14, Conj.
16 (~C · T) · ~(~C · T) 4, 15 Conj.
17 ~~(~C · T) 4 - 16 IP
18 ~C · T 17, DN
4 ~(~C · T) AIP
5 ~~C v ~T 4 DM
6 ~H · D 2 Comm
7. ~H 6 simp
8. T 3, 7 DS
9. ~T v ~~C 5 Comm
10. ~~T 8 DN
11. ~~C 9, 10, DS
12. C 11 DN
13. D ⊃ H 1, 12 MP
14. D 2 simp
15 H · 13, 14 MP
16 H · ~H 7, 14 Conj.
17 ~C · T 4 - 16 IP