

Philosophy 142 Homework Assignment #4

October 20, 2008

Non-Normal Modal Logics

1 Four Problems from the Text

You are to answer the following four (4) problems from pp. 80-81 of the text. Please make your answers as legible and complete as possible. Explain all of your reasoning (where appropriate). Write your name, section time, and group members' names (if any) on the front of your assignment (upper-right corner).

1. #2(b)
2. #2(c)
3. #3(c)
4. #4(e)

2 Two Problems on Deduction Theorems for \neg in N_ρ

1. Prove that the deduction theorem *fails* for \neg in N_ρ . More precisely, show that there exist formulas p and q such that (i) $p \vdash_{N_\rho} q$, but (ii) $\nvdash_{N_\rho} p \neg q$.
2. Does the other direction of the DT hold for N_ρ ? That is, does the following hold for all p and q ?

$$\vdash_{N_\rho} p \neg q \implies p \vdash_{N_\rho} q$$

Prove this, one way or the other.