

REVIEW SET FOR THE FIRST EXAM

25 SEPTEMBER 2001

PHL 312: INTRODUCTION TO LOGIC

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Do each problem in each of the two sections below in accordance with the corresponding set of instructions.

A. Use any of the ten primitive rules to show 1 through 4.

1. $P \vee Q \vdash Q \vee P$ [15]
2. $(P \leftrightarrow Q), Q \leftrightarrow \sim R \vdash \sim(P \& R)$ [15]
3. $R \rightarrow (T \vee S), S \vee \sim P, R \vee P \vdash \sim T \rightarrow S$ [15]
4. $\sim(P \& \sim Q) \vdash \sim P \vee Q$ [15]

B. Use the given translation scheme to translate each of the following English sentences (4 through 8) into the language of sentential logic.

- P Dubya s personality impresses undecided voters.
Q Gore s knowledge of the issues impresses independent voters.
R Dubya wins the debates.
S Gore wins the debates.
T Dubya wins the election.
U Gore wins the election.

5. Provided that Gore wins the debates, he will win the election. [10]
6. Gore wins the election, if Dubya s personality does not impress undecided voters. [10]
7. Dubya wins the debates, unless his personality does not impress undecided voters or Gore s knowledge of the issues impresses independent voters. [10]
8. Dubya wins the election, only if he wins the debates and Gore does not impress independent voters with his knowledge of the issues. [10]

PLEASE NOTE:

- This review set is identical to the PHL 312 exam given last fall (on 5 Oct 2000).
- Solutions to this review set will be provided in class on 2 Oct (one week from today).
- The first in-class exam will be given on 4 Oct (two days later than the scheduled date in the syllabus).
- The first exam will have a format very similar to this review set.
- You should bring a 20 page *blue book* to each exam.
- Cross out all but the intended answer; otherwise, the first answer given will be graded.

