

Math 2283 - Introduction to Logic

Homework #4 - 2006.09.22

Due Date - 2006.09.29

Name: _____

Convert the following Sentential wffs to Polish Sentential.

1. $((P \vee Q) \Rightarrow \neg R) \wedge (P \Leftrightarrow (Q \wedge \neg R))$

2. $((R \vee Q) \wedge S) \vee ((R \wedge S) \vee Q)$

3. $((R \wedge (Q \Rightarrow \neg P)) \Leftrightarrow ((P \wedge Q) \Rightarrow \neg R))$

4. $((R \Leftrightarrow (P \Rightarrow Q)) \vee ((P \wedge \neg Q) \Rightarrow R))$

Convert the following Polish Sentential wffs to Sentential.

5. $\vee \Rightarrow \Leftrightarrow R P Q \wedge P \Rightarrow \neg Q R$

6. $\vee \vee R \wedge Q S \wedge R \vee S Q$

7. $\vee P \Leftrightarrow \Rightarrow Q \wedge \neg R P \wedge Q \neg R$

8. $\wedge R \Rightarrow Q \neg \Leftrightarrow P \wedge P \Rightarrow Q \neg R$

9. Compute the truth table for the wff in problem 3, and state if the wff is consistent, inconsistent or a tautology.

10. Compute the truth table for the wff in problem 4, and state if the wff is consistent, inconsistent or a tautology.