

Logic 1, WS 2009. Homework 5, given Nov 19, due Nov 26.

1. Solve using the DPLL algorithm:

$$\{ P \vee Q, R \vee Q, \bar{R}, \bar{Q} \}$$

2. Solve using the DPLL algorithm:

$$\{ P \vee Q, \bar{P} \vee Q, R \}$$

3. Write the full logical formula abbreviated by $\exists_{M \in N} \varphi$.

4. Give the formal definition of continuity of a real function in one point and specify the type of each symbol (predicate, function, variable, logical connective, etc.) – similarly as it was done during the lecture.

5. Complete the example of the truth evaluation of the formula which was presented in the lecture, by computing the truth value of the instantiation of the universal formula for the case when x is assigned 1.