

**Logic 1, WS 2016. Homework 6, given Nov 17, due Nov 24.**

1. Find the sequent rule for “modus tollens” (from  $A \Rightarrow B$  and  $\neg B$  one obtains  $\neg A$ ) by using other rules.
2. Prove by sequent calculus that  $(A \wedge B) \Leftrightarrow A$  is a logical consequence of  $A \Rightarrow B$ .
3. Give a formal inductive definition of the meta-predicate “is formula” for first order predicate logic.