

Philosophy 134
Spring, 2007
Homework 7

Due: June 6, 2007, in class

1. Suppose that in the semantics for Modal Predicate Logic, each possible world were associated with its own domain, but that the predicates of modal logic were interpreted “rigidly,” in the sense that each predicate would have the same extension at all possible worlds in a frame. Give an example to show why this would undermine the usefulness of the semantical system in expressing what we would like to express about modality.
2. Give an argument to show why an *MPL* sentence of the form $t_i = t_j$ has a truth value at every world in a *QIRI-x* interpretation.
3. Show that the following is a semantical entailment in *QIRI-x*: $\{a = b\} \vDash_{QIRI-x} \Box Fa \supset \Box Fb$.
4. Give a counter-example to show that the following does not hold: $\{(\exists x)\Box Fx\} \vDash_{QIRI-x} \Box(\exists x)Fx$.
5. Prove that the following semantical entailment holds in *QIRI-x*: $\{(\exists x)\Box(Ea \wedge x = a)\} \vDash_{QIRI-x} \Box(\exists x)x = a$.