Philosophy 134
Spring, 2007
Homework 6

Due: May 30, 2007, in class

1. Explain the role played by parameters in Predicate Logic and Free Predicate Logic.

2. Using the semantical rules for *PI* prove that $\{(\forall x)(Fx \supset Gx), (\exists x)Fx\} \vDash_{PI} (\exists x)Gx$.

3. Give a schema of a derivation in *PD* which establishes the Quantifier Exchange rule $\sim(\exists \mathbf{x})\alpha(\mathbf{x}/\mathbf{u}) \vdash_{PD} (\forall \mathbf{x})\sim\alpha(\mathbf{x}/\mathbf{u})$.

4. Using the semantical rules for Free Predicate Logic (which we will here call the semantical system *FPI*), show that the following semantical entailment holds: $\{(\forall x)Fx, \mathrm{E}a, a = b\} \vDash_{FPI} Fb$.

5. Using the derivational rules for Free Predicate Logic, derive 'Fa' from the premises '$(\forall x)Fx$' and '$(\exists y)y = a$.'