

PHIL 155: Introduction to Mathematical Logic

Assignment Four

Before completing this assignment you should have read chapters 9–11 of *Language, Proof and Logic*.

1. Translation into FOL using quantifiers: do exercise 11.4
2. Understanding quantifiers: Translate the following sentences of FOL into (relatively) unambiguous, natural sounding English (paying careful attention to the meanings of the connectives, the scope and order of the quantifiers, and the order of the variables):
 - (a) $\forall x(\text{Tasty}(x) \rightarrow \exists y\text{Eats}(y, x))$
 - (b) $\forall x(\text{Tasty}(x) \wedge \exists y\text{Eats}(y, x))$
 - (c) $\exists y\forall x(\text{Tasty}(x) \rightarrow \text{Eats}(y, x))$
 - (d) $\forall x\text{Tasty}(x) \rightarrow \forall x\exists y\text{Eats}(y, x)$
3. (Difficult Translations) Do exercise 11.19 (which requires you to translate 5 sentences) (page 302)

