

Math 2283 - Introduction to Logic

Homework #10 - 2006.11.15

Due Date - 2006.11.20

Name: _____

Consider the wff $(\exists x\forall yGxy \Rightarrow \forall x\exists yGxy)$. Answer the following questions.

1. Given a domain D consisting of only two objects a and b , define the truth values of the unknown predicate G to be:

$$\begin{cases} Gab = T \\ Gaa = T \\ Gba = F \\ Gbb = F \end{cases}$$

Argue that such a structure would invalidate the wff.

2. Using the idea above, come up with a structure with only 2 objects in the domain, and a predicate G which invalidates the wff. (Hint: Remember that although G is single letter which represents a two place predicate which involves two objects x and y , your predicate does not have to be limited to one simple equation or sentence!)

3. Using problem 1 and your answer to problem 2, come up with a structure which has a domain of more than 2 objects which invalidates the wff.