

Math 2283 - Introduction to Logic

Quiz #1 - 2008.08.25

Name: _____

1. Which among the following expressions are sentential functions, and which are designatory functions:

a) Today is Tuesday.

b) $3x^2 - x + 1$

c) Tuesday

d) $3x^2 - x + 1 > 0$

2. Replace the following sentences with ones which have the same meaning but are formulated with the help of quantifiers and variables.

a) One can find two numbers such that the absolute value of their sum is the sum of their absolute values.

b) For any number x , there exists another number y not equal to x which is equidistant from 0 on the number line.

3. Determine if the following statements are true or false.

a) $\mathbf{A}_{x,y} \left[\mathbf{E}_z (x^2 - y < z^2) \right]$

b) $\mathbf{E}_z \left[\mathbf{A}_{x,y} (z < x^2 + y^2) \right]$