MATH 243 – Mathematical Structures
Practice on Statements with Quantifiers
September 6, 2017

For each of the following statements with quantifiers:

(1) Give the negation, and

(2) For the ones where it is possible, decide whether or not the original statement is true. Explain your reasoning.

Statements

A) Every student in this class is female.

B) All the children received Valentine's Day cards or candy.

C) For every real number x, the square of x is strictly positive.

D) There exists a pair of real numbers x and y such that $x > y$ and $x^2 < y^2$.

E) There exists a real number $x > 0$ such that for all real numbers $y > 0$, $x \leq y$.