MA1971   **Name:**

Quiz 1   **D Term, 2013**

Show all work needed to reach your answers.

1. (5 points) Which of the following is a statement (**S**), which is a predicate (**P**), and which is neither (**N**) (because it is ambiguous).

   (a) _____   The 10^{47}th digit of π is 3.

   (b) _____ $y = x$

   (c) _____ $x = x$

   (d) _____   All functions are continuous.

   (e) _____   All functions are ugly when written in MS Word.

2. (10 points) Please complete the following truth table.

A	B	C	$A \wedge B$	$\sim C$	$\sim (A \Rightarrow B)$	$(C \wedge (\sim A)) \wedge B$	$(A \Rightarrow (B \vee C)) \Leftrightarrow ((A \vee (\sim B)) \Rightarrow C)$
F	T	T					
T	T	F					

3. (5 points) Please negate the following statements:

   (a) "Some functions are discontinuous."

   (b) "If a positive integer n is even, then n is not divisible by 3."