University of Toronto, St. George Campus
Department of Computer Science

CSC 165H1 F
Fall 2007

Quiz #5

Name: ____________________ Marker's name: ____________________

Instructions to student: Using pen, write your answers in the space provided and leave the right column blank.
Instructions to marker: Write only in the right column, and clearly indicate the mark you believe is deserved in each category (no 1/2 marks). Write the total in the provided blank.

Consider the following statement about a sequence of natural numbers $a_0, a_1, a_2, \ldots$:

(S) $\forall i \in \mathbb{N}, \exists k \in \mathbb{N}, \forall m \in \mathbb{N}, m \leq k \Rightarrow a_m \leq {a_i}^2$

Using our structured proof form, give the proof structure we would use to prove (S). (Do not actually prove (S).) Recall that $\mathbb{N} = \{0, 1, 2, \ldots\}$.

For marking only:

5 marks:
3 for overall proof structure,
2 for breaking down (S) into sub-arguments

Proof Structure:
0 = improper, cannot prove statement
1 = major flaws or omissions
2 = one minor error
3 = right, can use to prove statement

Statement Breakdown:
0 = improper
1 = minor error or incomplete
2 = correctly broken down into individual predicates

Total: ________