

**Mathematics 3790H – Analysis I: Real analysis**

TRENT UNIVERSITY, Winter 2015

**Assignment #3**

*Due on Friday, 30 January, 2015.*

1. Suppose that  $\{a_n\}$  is a sequence of positive real numbers such that  $\lim_{n \rightarrow \infty} \frac{a_{n+1}}{a_n} < 1$ .  
Show that  $\lim_{n \rightarrow \infty} a_n = 0$ . [10]