F. Trinity Dickinson Professor Alexis Maciel CS142 12/6/2016

CS142 Assignment 10 Problem 2

- a) If $n \ge \frac{3}{5}$, $n^2 \le n^2 + 5n 3$. With this constraint, it's also true that $4n^2 \ge n^2 + 5n 3$. Therefore, $an^2 \le n^2 + 5n 3 \le bn^2$ if $n_0 \ge \frac{3}{5}$, a = 1, and b = 4.
- b) If $n \ge 1$, $n^2 \le n^2 + n$. With this constraint, it's also true that $2n^2 \ge n^2 n$. Therefore, $an^2 \le n^2 n \le bn^2$ if $n_0 \ge 1$, a = 1, and b = 2.