Math 299   **Homework 10**

   For each of the following statements, determine whether it is true or false and then prove your answer.

1. There is some $n \in \mathbb{N}$ such that $9n^2 < n^3 < 15n^2$.

2. There is some $n \in \mathbb{N}$ such that $n < n^3 < 4n$.

3. There is some $n \in \mathbb{R}$ such that $n < n^3 < 4n$.