Math 3000, Homework assignment #10 (first part)

1. Read Section 3.5.

2. Prove that $\sqrt{3}$ exists and that it is irrational.

3. Show that there is at least one real number x such that $5^x = x^4$. (You may assume without proof that 5^x and x^4 are continuous functions.)

4. Turn in all of the above.