Please write your solutions on a different piece of paper. Please refer to the course syllabus for a detailed explanation of how you should write homework solutions and how they will be graded.

Section 12.1

12.4 Prove that the sequence \( \left\{ \frac{1}{n^2 + 1} \right\} \) converges to 0.

12.6 Prove that the sequence \( \left\{ \frac{n + 2}{2n + 3} \right\} \) converges to \( \frac{1}{2} \).

12.8 Show that the sequence \( \{n^4\} \) diverges to infinity.