Math 001C Assignment 11.6 Name:_____

DIRECTIONS To receive full credit, you must provide complete legible solutions to the following problems in the space provided. No Attached papers. Transfer all your answers to the space provided.

1. Determine whether the series is absolutely convergent, conditionally convergent, or divergent.

$$\sum_{k=1}^{\infty} k\left(\frac{4}{5}\right)^k$$

2. Determine whether the series is absolutely convergent, conditionally convergent, or divergent.

$$\sum_{n=1}^{\infty} (-1)^{n-1} \frac{n}{\sqrt{n^3+1}}$$

3. Determine whether the series is absolutely convergent, conditionally convergent, or divergent.

$$\sum_{n=1}^{\infty}(-1)^n \frac{\tan^{-1} n}{n^2}$$

4. Determine whether the series is absolutely convergent, conditionally convergent, or divergent

$$\sum_{n=1}^{\infty}\left(\frac{-2n}{n+1}\right)^{3n}$$

5. Use the Ratio Test to determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty}\frac{3^n n!}{7\cdot 12\cdot 17\cdots(5n+2)}$$