

Worksheet 10.4.
Absolute and Conditional Convergence

1. Show that the following series converges conditionally:

$$\sum_{n=1}^{\infty} (-1)^{n-1} \frac{1}{n^{2/3}} = \frac{1}{1^{2/3}} - \frac{1}{2^{2/3}} + \frac{1}{3^{2/3}} - \frac{1}{4^{2/3}} + \cdots$$

2. Determine if the series $\sum_{n=1}^{\infty} \frac{(-1)^n n^4}{n^3 + 1}$ converges absolutely, conditionally, or not at all.

3. Determine if the series $\sum_{n=1}^{\infty} \frac{\sin n}{n^2}$ converges absolutely, conditionally, or not at all.