

QUIZ 13

Time: 10min

Fill in the blanks in the first three problems

1. The alternating series $a_1 - a_2 + a_3 - a_4 + \dots$ will converge provided that the terms are decreasing in size and _____.
2. If $\sum |u_k|$ converges, we say that the series $\sum u_k$ converges _____; if $\sum u_k$ converges but, $\sum |u_k|$ diverges, we say that $\sum u_k$ converges _____.
3. The premier example of a conditionally convergent series is _____.
4. Determine whether the series

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

is conditionally convergent, absolutely convergent, or divergent.

The first 3 problems are worth 4 points (one point per blank), and the last is worth 6 points.