

Calculus with Analytic Geometry II

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1 Alternating Series Worksheet

Determine whether the following series converge or diverge. Classify any convergent series as absolutely or conditionally convergent.

I. $\sum_{k=1}^{\infty} \frac{\cos(k)}{k^2}$

II. $\sum_{k=1}^{\infty} (-1)^{k+1} \frac{1}{\ln(k+1)}$

III. $\sum_{k=1}^{\infty} (-1)^{k+1} \frac{k^k}{3^k}$