

Series Worksheet

Thomas R. Cameron

September 25, 2025

Exercises

- I. For each series, determine if the sequence of partial sums converges or diverges. If it converges, find its limiting value. You may use the monotone sequence theorem or L'Hopitals rule.

a. $\sum_{k=0}^{\infty} \frac{1}{3^k}$

b. $\sum_{k=2}^{\infty} \frac{1}{k^2 - 1}$

c. $\sum_{k=1}^{\infty} \frac{1}{k}$