CDI-II

Séries alternadas - Séries com termos de sinal qualquer

Exercícios

1. Mostre que as séries abaixo são convergentes:

   (a) $\sum_{k=1}^{\infty} \frac{(-1)^{k+1}}{5^k}$

   (b) $\sum_{k=2}^{\infty} \frac{(-1)^k}{\ln k}$

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

   (d) $\sum_{k=1}^{\infty} \frac{\cos k}{3^k}$

   (e) $\sum_{k=1}^{\infty} \frac{1-e^{\sin k}}{3^k}$

   (f) $\sum_{k=1}^{\infty} \frac{2^k \sin\left(k^2+1\right)}{3^k}$

   (g) $\sum_{k=1}^{\infty} \frac{\cos\left(e^{k^2+2}\right)-\sin\left(\ln\left(k^4+k^2+4\right)\right)}{k!}$

   (h) $\sum_{k=1}^{\infty} \frac{k \sin(k+4)}{k^2+2}$