

Analisi Matematica 1 - Esercitazione 14

Esercizio 1. Studiare la convergenza delle seguenti serie numeriche:

$$1. \sum_{n=1}^{\infty} \frac{1}{e^n + n^3}$$

$$8. \sum_{n=1}^{\infty} \frac{1}{(2 + (-1)^n)^n}$$

$$2. \sum_{n=1}^{\infty} \frac{n}{(n+1)!}$$

$$9. \sum_{n=2}^{\infty} \frac{(-1)^n}{\log n}$$

$$3. \sum_{n=1}^{\infty} \frac{1}{2^{\log n} + 1}$$

$$10. \sum_{n=2}^{\infty} \frac{(-1)^{n+1} \log n}{\sqrt{3n+2}}$$

$$4. \sum_{n=1}^{\infty} \frac{n \sin\left(e^{\frac{1}{n^2+1}} - 1\right)}{3 \ln n + 1}$$

$$11. \sum_{n=2}^{\infty} \frac{(-1)^{n+1} n \sin n}{\log^2((n!)^2 + \sqrt{n+2})}$$

$$5. \sum_{n=2}^{\infty} \frac{\sin \frac{1}{\sqrt{n}}}{\log n \sqrt{\log n!}}$$

$$12. \sum_{n=1}^{\infty} \left(\frac{1+n^2}{n^2-n+1} \right)^{\frac{n^3+2}{2-n}}$$

$$6. \sum_{n=2}^{\infty} \frac{\log \log n}{n \log^2 n}$$

$$13. \sum_{n=1}^{\infty} \frac{(n^2+1)^n}{(2n)!}$$

$$7. \sum_{n=1}^{\infty} \frac{3^n + 2 \log n!}{n^5 + 2^{\frac{2n^2}{n+1}}}$$