

Analisi 1 Foglio 11

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Studiare la convergenza delle seguenti serie:

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

$$\sum_{n=2}^{\infty} \frac{\sin \frac{1}{\sqrt{n}}}{\log n \sqrt{\log n!}} \quad (2)$$

$$\sum_{n=1}^{\infty} \frac{n \left(\sin \left[e^{\frac{1}{n^2+1}} - 1 \right] \right)}{3 \log n + 1} \quad (3)$$

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

$$\sum_{n=2}^{\infty} \frac{(-1)^n n \sin n}{\log^2 ((n!)^2 + \sqrt{n+2})} \quad (5)$$

$$\sum_{n=0}^{\infty} \left(\frac{n^2 - 1}{n^2 + 1} \right)^{n^3} \quad (6)$$

$$\sum_{n=1}^{\infty} \frac{\log^3 n}{n^{\sqrt{n}} + n^5 \arctan(1 + e^n)} \quad (7)$$

$$\sum_{n=1}^{\infty} \frac{(\sqrt{2})^{-n}}{\sqrt{5n + 4^n} - 2^n} \quad (8)$$

$$\sum_{n=1}^{\infty} \frac{\sqrt[4]{n^4 + 9^n} - n}{n^{\sqrt{n}} + 2^n} \quad (9)$$

$$\sum_{n=1}^{\infty} n^3 \left[e^{-\frac{1}{2n^2}} - \cos \left(\frac{n}{n^2 + 1} \right) \right] \quad (10)$$

$$\sum_{n=1}^{\infty} \frac{(-1)^n n^2 \log n}{n^3 + 2} \quad (11)$$

$$\sum_{n=1}^{\infty} \sin(\sqrt{4n^4 - n + 1} - n) \quad (12)$$

$$\sum_{n=2}^{\infty} \frac{1}{(\log n)^{\log n}} \quad (13)$$