

UNIVERSITÀ DEGLI STUDI ROMA TRE - MATEMATICA
ESERCIZI DI AM120

A.A. 2025/2026 - ESERCITAZIONE II

Esercizio 1.

$$(1) \sum_{n=1}^{+\infty} \sqrt{n}(\sqrt[3]{n^6+n} - n^2);$$

$$(2) \sum_{n=1}^{+\infty} \frac{1}{n(\ln n)(\ln \ln n)};$$

$$(3) \sum_{n=1}^{+\infty} (-1)^n(\sqrt{n+1} - \sqrt{n});$$

$$(4) \sum_{n=1}^{+\infty} (-1)^n \sqrt[3]{n} \ln \left(1 + \frac{1}{n}\right);$$

$$(5) \sum_{n=1}^{+\infty} \frac{1}{n} \sin \left(n\sqrt{1 + \frac{1}{n^2}} - n\right);$$

$$(6) \sum_{n=2}^{+\infty} \frac{1}{\ln(n!)};$$

$$(7) \sum_{n=1}^{+\infty} \frac{n^n}{2^n n!};$$