Exercises

E7.4 [OD9]

Let $a_k = \sqrt[3]{k^3 + k} - k$. Prove that

$$\sum_{k=1}^{n} a_k \sim \frac{1}{3} \log(n)$$

that is, the ratio between the two above sequences tends to 1 when $n \to \infty$.

Solution 1. *[ODB]*