

**Apostol, Tom M.**

**A proof that Euler missed: Evaluating  $\zeta(2)$  the easy way.** (English) Zbl 0538.10001  
Math. Intell. 5, No. 3, 59-60 (1983).

The author proves Euler's identity  $\sum_{n=1}^{\infty} n^{-2} = \pi^2/6$  by simply evaluating a certain double integral in two different ways. Contrary to the more standard proofs this approach can be presented in a course in elementary calculus.

Reviewer: [F.Beukers](#)

**MSC:**

- [11-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to number theory
- [11M06](#)  $\zeta(s)$  and  $L(s, \chi)$
- [40A05](#) Convergence and divergence of series and sequences

Cited in **2** Reviews  
Cited in **11** Documents

**Keywords:**

[zeta\(2\)](#); [summation of series](#); [Euler's identity](#)

**Full Text:** [DOI](#)

**References:**

- [1] R. Apéry (1979) Irrationalité de  $\zeta(2)$  et  $\zeta(3)$ . Astérisque 62.11–13. Paris: Société Mathématique de France.
- [2] F. Beukers (1979) A note on the irrationality of  $\zeta(2)$  and  $\zeta(3)$ , Bull. Lon. Math. Soc. 11:268–272. · [Zbl 0421.10023](#) · [doi:10.1112/blms/11.3.268](#)
- [3] F. Goldscheider (1913) Arch. Math. Phys. 20:323–324.

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