## Euler-Mascheroni Constant

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## 1 Definition

Both the harmonic series  $H_n$  and natural logarithm  $\ln(n)$  diverge as  $n \to \infty$ . However, they are both slowly diverging functions and  $\gamma$  is the difference between them as  $n \to \infty$ .

$$\gamma = \lim_{n \to \infty} -\ln(n) + \sum_{k=1}^{n} \frac{1}{k}$$