

The Harmonic Series: A Primer

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Students in upper-level math courses are often bewildered by many things, but perhaps the main difficulties they encounter are centered around three fundamental concepts: the notion of infinity and infinite processes; the phenomena of convergence and divergence; and the construction of rigorous proofs.

A good illustration is provided by the Harmonic Series, which, as well as having a rich history and many related mathematical topics which arise from its study, is often the first example that students ever see of a divergent series.

This talk will attempt to use examples from the history of mathematics to introduce this important series, as well as to shed light on a fascinating connection with one of the most crucial results in the whole of number theory.

