Dirichlet Series I

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Abstract

This talk is the first part of a two-part presentation on Dirichlet series. In this session, we introduce the concept of Dirichlet series and explore their general properties. We discuss how convergence and absolute convergence depend on the real part of the complex variable and describe the corresponding regions. Examples of Dirichlet series generated by well-known arithmetic functions, such as the Möbius function $\mu(n)$ and Euler's totient function $\phi(n)$, are presented to illustrate their connection with the Riemann zeta function $\zeta(s)$.

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References

[1] Apostol, T. M., Introduction to analytic number theory. Springer (1976).