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Comparing the Growth of the Prime Numbers to the Natural Numbers,
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Abstract

We define a new method of measuring the rate of divergence for an increasing positive sequence of integers. We introduce the growth function for such a sequence and its associated growth limit. We use these tools to study the divergence rate for the natural numbers, polynomial and exponential-type sequences, and the prime numbers. We conclude with a number of open questions concerning general properties and characterizations of growth functions and the set of possible growth limits.