

What is the Erdős-Kac theorem?

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Abstract

Let $\omega(n)$ denote the number of distinct prime divisors of $n \in N$. In 1939, Paul Erdős and Mark Kac showed that the value distribution of $\omega(n)$ is normally distributed in a certain sense. This result, known as the Erdős-Kac theorem, was one of the first in what is now called probabilistic number theory. In this talk we will discuss the history of this and related results and provide a sketch of its proof.