

**Zbl 061.07905**

**Erdős, Pál**

*On an elementary proof of some asymptotic formulas in the theory of partitions.*

(In English)

**Ann. of Math., II. Ser. 43, 437-450 (1942).**

Let  $p(n)$  be the number of partitions of the positive integer  $n$  and let  $p_k(n)$  be the number of partitions of  $n$  into exactly  $k$  summands. The author gives an elementary proof that  $\lim_{n \rightarrow \infty} np(n) \exp\{-\pi(2n/3)^{1/2}\}$  exists and is positive, but does not determine its value (known to be  $48^{-1/2}$ ). An elementary determination of the value of the limit was later given by *D.J.Newman* (Zbl 043.04501).

Classification:

11P82 Analytic theory of partitions

11P81 Elementary theory of partitions