Zbl 405.10011

Articles of (and about)

Erdős, Paul; Wagstaff, Samuel S.jun.

The fractional parts of the Bernoulli numbers. (In English)

Ill. J. Math. 24, 104-112 (1980). [0019-2082]

It is proved that the fractional parts of the Bernoulli numbers B_{2k} are dense in the interval (0,1). Furthermore, for every positive integer k, the set of all m for which B_{2m} has the same fractional part as B_{2k} as positive asymptotic density. The second statement is proved via this result on divisibility by p-1: For each $\varepsilon > 0$, there is a $T = T(\varepsilon)$ so that if x > T, then the number of $m \le x$ which have a divisor p-1>T, with p prime is less than εx . The paper concludes with several related open questions.

P.Erdős

Classification:

11B39 Special numbers, etc.

Keywords:

positive asymptotic density; divisibility; Bernoulli number; fractional part; shifted prime