

Zbl 453.10004

Erdős, Pál; Győry, Kalman; Papp, Zoltan

On some new properties of functions $\sigma(n)$, $\phi(n)$, $d(n)$ and $\nu(n)$. (In Hungarian)

Mat. Lapok 28, 125-131 (1980). [0025-519X]

The authors call two functions $f(n)$ and $g(n)$ independent if, for any two permutations $i_1, \dots, i_r; j_1, \dots, j_r$ of $1, 2, \dots, r$, the inequalities $f(n+i_1) > \dots > f(n+i_r)$; $f(n+j_1) > \dots > f(n+j_r)$ have always infinitely many solutions. They prove that $d(n)$ and $\nu(n)$ are independent. For $\varphi(n)$ and $\sigma(n)$ the result holds for $r \leq 4$ only.

If the definition is extended to the independence of k functions (with arbitrary k permutations) then $d(n)$, $\nu(n)$ and either $\varphi(n)$ or $\sigma(n)$ are also independent.

A. Recski

Classification:

11A25 Arithmetic functions, etc.

Keywords:

independent functions; permutations