
Zbl 393.10005

Ecklund, E.F.jun.; Eggleton, R.B.; Erdős, Paul; Selfridge, J.L.

On the prime factorization of binomial coefficients. (In English)

J. Aust. Math. Soc., Ser. A 26, 257-269 (1978). [0263-6115]

Let n and k be positive integers such that $n \geq 2k$. If $\binom{n}{k} = uv$ where each prime factor of u is less than k and each prime factor of v is greater than or equal to k, it is proved here that $u < v$ except for twelve cases which are listed. It is also shown that if $\binom{n}{k} = UV$ where each prime factor of U is less than or equal to k and each prime factor of V exceeds k, then $U < V$ with finitely may exceptions. Nineteen such exceptions are given and it is conjectured that there are no others. The arguments used are elementary but not simple.

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Classification:
11A41 Elememtary prime number theory
05A10 Combinatorial functions

Keywords:
prime factorization; binomial coefficients