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Erdős, Paul; Lewin, Mordechai

d-complete sequences of integers. (In English)

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Let $A = \{a_1 < a_2 < \dots\}$ be an infinite sequence of integers. A is said to be complete if every sufficiently large integer is the sum of distinct elements of A. If every large integer is the sum of a_i such that no one divides the other, then A is called d-complete.

In 1959, *B. J. Birch* [Proc. Camb. Philos. Soc. 55, 370-373 (1959; Zbl 093.05003)] proved that the set $\{p^\alpha q^\beta \mid (p,q)=1;\ \alpha,\beta \in \mathbb{N}\}$ is complete. The main result of the paper is the following: The sequences

$$A_1 = \{2^\alpha 5^\beta p^\gamma \mid \alpha,\beta,\gamma \in \mathbb{N};\ 6 < p < 20;\ p \text{ is prime}\}; \qquad A_2 = \{3^\alpha 5^\beta 7^\gamma \mid \alpha,\beta,\gamma \in \mathbb{N}\}$$

are d- complete. Furthermore, the authors prove: the set

$$\{p^\alpha q^\beta \mid p,q > 0;\ \alpha,\beta \in \mathbb{N}\}$$

is d-complete if and only if $\{p,q\} = \{2,3\}$.

N.Hegyvari (Budapest)

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11B75 Combinatorial number theory
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