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Dot product rearrangements. (In English)

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Let $a = (a_n)$ and $x = (x_n)$ be sequences of non-negative integers. Let $a.x = \sum a_n x_n$. Letting x_π denote a permutation of the sequence x, this paper investigates which subsets of $\mathbb{R}$ can be realised as $a.x_\pi$. The main result is that if a_n increases unboundedly and x_n is positive and decreases to zero, then the set of numbers in question is the interval $[a.x, \infty]$ if and only if a_{n+1}/a_n is uniformly bounded.

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40A05 Convergence of series and sequences

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