

Minimal Sizes of Binary Linear Forms

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A binary linear form is a set of the form $sA + tA = \{sx + ty \mid x, y \in A\}$ where $s, t \in \mathbb{N}$ and A is a finite subset of nonnegative integers. We consider the minimal size of $sA + tA$ for a fixed size of the set A and find all such sets that obtain this minimum. We also give results to enumerate these sets given a bound on the largest element in the set.