

On a property of additive complements

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Abstract. Two infinite sequences A and B are called *infinite additive complements* if every sufficiently large integer can be expressed as the sum of two elements taken from A and B . Let $A(x)$ (resp. $B(x)$) be the number of elements in A (resp. B) not exceeding x . Motivated by a recent result [3], the authors proved that, for infinite additive complements A, B , if $\limsup \frac{A(2x)B(2x)}{A(x)B(x)} < 2$ or $\limsup \frac{A(2x)B(2x)}{A(x)B(x)} > 4$, then $A(x)B(x) - x \rightarrow +\infty$ as $x \rightarrow +\infty$. Furthermore, the above constants 2 and 4 cannot be improved.

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Mathematics Subject Classification: 11B13, 11B34.

Key words and phrases: additive complements, sequences.