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Abstract

1 Problem 1, Bulgaria Round 3, 1975

Let n be an odd natural number and a_1, a_2,..., a_n a permutation of the numbers 1, 2,...,n.

Show that the value $(a_1 - 1) * (a_2 - 2) * ...(a_n - n)$ is an even number.

2 Problem 1, Spanish MO, 1995

Consider all sets A of one hundred different natural numbers with the property that any three elements a,b,$c \in A$ (not necessarily different) are the sides of a non-obtuse triangle. Denote by $S(A)$ the sum of the perimeters of all such triangles. Compute the smallest possible value of $S(A)$.

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