



Bilkent University
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PROBLEM OF THE MONTH

Term: February 2012

Let $S = \{a_1, a_2, \dots, a_n\}$ be a set of positive real numbers such that for each $l \in \{2, 3, 4, 5\}$ there are pairwise disjoint subsets $S_1^l, S_2^l, \dots, S_l^l$ of S satisfying $|S_i^l| = \frac{|S|}{l}$; $i = 1, 2, \dots, l$ ($|A|$ denotes the sum of all elements of the set A). Find the minimal possible value of n .