Zbl 448.10002
Erdős, Paul
A survey of problems in combinatorial number theory. (In English)
Ann. Discrete Math. 6, 89-115 (1980).

Problems are presented in the following areas: the theorem of van der Waerden and Szemerédi; covering congruences, additive number theory, dense sets of integers, infinite subsets of integers (related to the work of Hindmann), sieve methods and other miscellaneous topics. An attempt is made to describe what has happened to problems mentioned in previous surveys. Some old conjectures still remain open, for example the following one of 45 years standing: if $1 \leq a_1 < \cdots < a_k \leq x$ is a sequence of integers such that the sums $\sum_1^k \varepsilon_i a_i$, $\varepsilon_i = 0 \text{ or } 1$, are all different, then $\max k = \frac{\log x}{\log 2} + 0(1)$. 500 dollars is coffered for its solution. A larger survey due to the author and R. L. Graham can be found in "Old and new problems and results in combinatorial number theory" [L'Enseignment Math., Monographie 28 (1980; Zbl 434.10001)].

I.Anderson

Classification:
11-02 Research monographs (number theory)
11B25 Arithmetic progressions
11B83 Special sequences of integers and polynomials
11P32 Additive questions involving primes
11N05 Distribution of primes
11A99 Elementary number theory
00A07 Problem books
05A05 Combinatorial choice problems

Keywords:
problems; covering congruences; dense sets of integers; infinite subsets of integers; sieve methods