

Zbl 818.52014

Erdős, Paul

Problems and results in discrete mathematics. (In English)

Discrete Math. **136**, No.1-3, **53-73** (1994). [0012-365X]

This is a collection of a large number of very challenging unsolved problems in number theory, geometry, and combinatorics, together with many valuable remarks on the sometimes rather long history and the present state of knowledge. The author has contributed to most of the problems in an essential way. This enables him to estimate their difficulty by offering certain amounts of money for their solution. It also results in a very lively style of presentation. As a rule, the author does not provide detailed bibliographical references. Instead, he recommends some books and papers containing more complete information. Unfortunately, there are some misprints. In particular, the lower bound (due to Berlekamp) for the number $f(p, 2)$ concerning van der Waerden's theorem on monochromatic arithmetic progressions of length p in a two-colouring of the integers should read $p \cdot 2^p$ instead of p^{2^p} .

J.Linhart (Salzburg)

Classification:

52C10 Erdős problems and related topics of discrete geometry

11B25 Arithmetic progressions

05D10 Ramsey theory

00A07 Problem books

52-02 Research monographs (convex and discrete geometry)

05C55 Generalized Ramsey theory

Keywords:

Erdős problems; arithmetic progressions; Sidon sequences; Ramsey theory; unsolved problems