
Zbl 233.05017
Erdős, Paul
On a problem of Grünbaum. (In English)
Can. Math. Bull. 15, 23-25 (1972). [0008-4395]

The following problem is stated by Grünbaum: Determine the sequence of integers $m_1^{(n)} < m_2^{(n)} < \dots$ so that for every i there is a set of n points in the plane which determine exactly $m_i^{(n)}$ lines. The author proves that there is a c_1 so that for every $c_1 n^{3/2} < m \leq \binom{n}{2}$, $m \neq \binom{n}{2} - 1$, $m \neq \binom{n}{2} - 3$ there is a set of n points which determines exactly m lines. The result is best possible (apart from the value of c_1). The principal tool is a result of *L. M. Kella* and *W. O. J. Moser* [Can. J. Math. 10, 210-219 (1958; Zbl 081.15103)]. Several unsolved problems are stated.

Classification:
11B83 Special sequences of integers and polynomials
00A07 Problem books