Zbl 403.52006
Erdős, Paul; Purdy, George
Some extremal problems in geometry. V. (In English)
Proc. 8th southeast. Conf. on Combinatorics, graph theory, and computing, Baton Rouge 1977, 569-578 (1977).

[For the entire collection see Zbl 396.00002.]
The authors continue their investigation of bounds for several functions occuring in problems of Combinatorial Geometry (for part IV, see Proc. 7th south-east. Conf. Comb., Graph Theory, Comput.; Baton Rouge 1976, 307-322 (1976; Zbl 345.52007). Their results concern the number of different volumes of simplices formed from n given points in a Euclidean space, the number of planes determined by n given points, and the number of triangles determined by n points in the plane. Examples: Given n points in E^3, no three on a line, not all on a plane, there are at least $cn^{3/4}$ distinct volumes of simplices formed from these points, where c is a constant. Then n vertices of polyhedron in E^3 determine at least $\binom{n-2}{2} + 1$ planes, provided $n \geq 552$.

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Classification:
52A37 Other problems of combinatorial convexity

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