Grötschel, Martin; **Lovász, László**; **Schrijver, A.**
Geometric methods in combinatorial optimization. (English) ⏐Zbl 0541.90075⏐
Progress in combinatorial optimization, Conf. Waterloo/Ont. 1982, 167-183 (1984).

[For the entire collection see Zbl 0535.00030.]

This paper states some basic algorithmic problems with respect to convex sets, polytopes and lattices. Difficulties that arise in formulating these problems are illuminated. Some results are outlined which can be obtained by applying geometric algorithms. In particular, use is made of the ellipsoid method and a method for simultaneous diophantine approximation. Moreover, applications of these results to combinatorial optimization problems are surveyed.

MSC:

90C10	Integer programming	Cited in **4** Documents
52C07	Lattices and convex bodies in n dimensions (aspects of discrete geometry)	
65K05	Numerical mathematical programming methods	
11H06	Lattices and convex bodies (number-theoretic aspects)	

Keywords:

convex sets; polytopes; lattices; geometric algorithms; ellipsoid method; diophantine approximation; combinatorial optimization