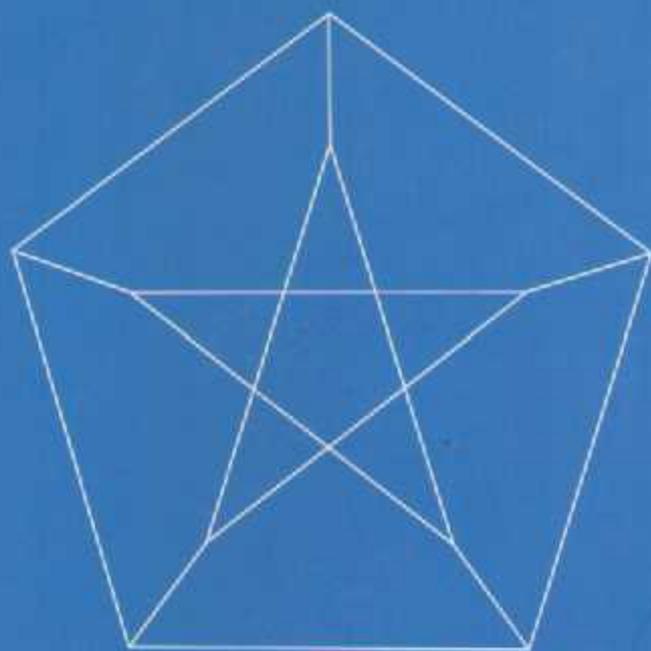




Volume 304 Issues 1-3 28 November 2005 ISSN 0012-365X

# DISCRETE MATHEMATICS



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## 1. Introduction and definitions

All the graphs we deal with are undirected, simple and connected.

Let  $G = (V, E)$  be a graph with vertex set  $V$  and edge set  $E$ .

A function  $w: E \rightarrow \mathbb{Z}^+$  is called a *weighting* of  $G$  and for an edge  $e \in E$ ,  $w(e)$

is called the *weight* of  $e$ . The *weight*  $w(x, y)$  of an edge  $e = xy$  is denoted by  $w(x, y)$ .

The *weighted degree* of a vertex  $x \in V$  is the sum of the weights of its incident edges:

$d_w(x) = \sum_{y \in V} w(x, y)$ . The *minimum weighted degree* is defined as  $\delta_w(G)$ , the minimum

of all weighted degrees of  $G$ .

The study of  $\delta_w(G)$  was started by Chartrand et al. [1] and has proved to be difficult to

general. Therefore we study graphs for which the minimum weighted degree is known. For an

overview of the subject, the reader is referred to the survey of Lohs [10] and recent papers

[2, 3, 4, 5, 6, 7, 8, 9].

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