999-20-260   **Noel Brady*** (`nbrady@math.ou.edu`), Department of Mathematics, University of Oklahoma, Norman, OK 73019, and **Martin R Bridson**. *Dehn functions of finitely presented groups.* Preliminary report.

A number a is said to belong to the isoperimetric spectrum of finitely presented groups, denoted by IP, if there is a finitely presented group with Dehn function of the form $f(n) = n^a$. We give a variation of the snowflake construction which shows that IP contains all numbers of the form $2\log_s(r)$ where $1 \le s \le r$ are positive integers. In particular, all rationals in $[2, \infty)$ belong to IP. We give applications to the isoperimetric spectrum for second order Dehn functions of groups. (Received August 24, 2004)