

Irregular Domination in Graphs

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A set S of vertices in a graph G (without isolated vertices) is a total dominating set if for every vertex v of G , there exists a vertex u in S such that the distance $d(u, v)$ between u and v is 1. A set S of vertices of G is an irregular dominating set if the vertices of S can be assigned distinct positive integer labels such that for every vertex v of G , there exists a vertex u in S in such a way that $d(u, v)$ is the label assigned to u . Some results and problems dealing with irregular dominating sets are presented. In particular, the problem of determining the possible structures of irregular dominating sets within a graph is discussed.

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