

Total Domination of Categorical Products

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Abstract

A set of vertices in a graph G is a *total dominating* set if every vertex in G has at least one neighbor in the set. The *total domination number* of G is the minimum cardinality, $\gamma_t(G)$, of a total dominating set. In this talk we consider the multiplicative behavior of γ_t on the categorical product of graphs. For example, we show that if T is any nontrivial tree and G has minimum degree at least one, then $\gamma_t(G \times T) = \gamma_t(G)\gamma_t(T)$.

Keywords: total domination; categorical product