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Variants of the domination number for flower snarks

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Abstract

We consider the flower snarks, a widely studied infinite family of 3–regular graphs. For the Flower snark J_n on $4n$ vertices, it is trivial to show that the domination number of J_n is equal to n. However, results are more difficult to determine for variants of domination. The Roman domination, weakly convex domination, and convex domination numbers have been determined for flower snarks in previous works. We add to this literature by determining the independent domination, 2-domination, total domination, connected domination, upper domination, secure domination and weak Roman domination numbers for flower snarks.

Keywords: Flower, snarks, domination, variants, secure.

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Različice dominacijskega števila za rožne snarke

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Povzetek

Obravnavamo rožne snarke, široko raziskano neskončno družino 3–regularnih grafov. Za rožni snark J_n na $4n$ točkah je trivialno pokazati, da je dominacijsko število snarka J_n enako n. Vendar pa je rezultate težje določiti pri različicah dominacije. Števila rimske dominacije, šibko konveksne dominacije in konveksne dominacije so bila določena za rožne snarke v prejšnjih člankih. To literaturo dopolnjujemo z določitvijo števil neodvisne dominacije, 2-dominacije, totalne dominacije, povezane dominacije, zgornje dominacije, varne dominacije in šibke rimske dominacije.

Ključne besede: Roža, snarki, dominacija, različice, varno.

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