

## A Two Player Graph Pebbling Game

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We introduce a two player game graph pebbling game. Based on classical graph pebbling, players take turns removing two pebbles from a vertex and placing a single pebble on an adjacent vertex. Mover wins if a pebble is placed on a specified root and Defender wins if the root is not reached and no pebbling moves remain. We examine configurations, the initial placement of pebbles, for which each player wins on certain diameter two graphs as well as on path powers. In certain cases the problem reduces to another combinatorial game on sets. We can determine the minimum number,  $\eta$ , of pebbles so that Mover wins for any configuration with  $\eta$  pebbles for a large class of diameter two graphs and for path powers. We present bounds for  $\eta$  in the case of regular paths, for which it is surprisingly difficult to get an exact value.

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