

Row Impartial Terminus: A new Combinatorial Game

Eric Gottlieb, Rhodes College; Dawood Khatana*, Rhodes College; Matjaž Krnc, University of Primorska; Peter Muršič, University of Primorska; Ismael Qureshi, Rhodes College

We introduce Row Impartial Terminus (RIT), a new impartial combinatorial game played on the Young diagrams of integer partitions. We show that any position in RIT can be uniquely decomposed into a core and a remnant. Our central result is that the Conway pair of any RIT position—which determines the outcome under both normal and mis‘ere play—is identical to the Conway pair of a corresponding position in the game of Nim defined by the remnant. This finding provides a complete winning strategy for both variants of RIT, reducing its analysis to the well-understood framework of Nim. As a consequence, we classify RIT within the Conway-Gurvich-Ho hierarchy, showing it to be forced and miserable, while not pet.