
Abstract:

The oval track puzzle (also known as *Top Spin*) is a game consisting of 20 numbered tiles in an oval shaped track. Also, there is a fixed window (the *swapping window*) of 4 tiles that reverses the order of the tiles within the window, leaving the other 16 tiles fixed. The object of the puzzle is to reorder the tiles into counting order using the mechanisms of the puzzle. Our paper presents conditions for both solvability and non-solvability for the general oval track puzzle with n total tiles and k tiles in the swapping window. This paper answers questions left over from the work done by Eric Wilbur in his paper entitled *Topspin: Solvability of Sliding Number Game* from Volume 2, Issue 2 of the RHIT Mathematics Journal. Using his notation and terminology as a reference, we reproved some cases as well as proved open problems from his paper.