

Student Research Talks (StReeTs)

Mason Experimental Geometry Lab (MEGL)

Permutation Groups and Puzzle Tile Configurations of Instant Insanity II

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Abstract

The manufacturer claims that there is only one solution to the puzzle Instant Insanity II. However, there are actually two solutions. Our goal is to find ways in which we only have one solution. We examine the permutation groups of the puzzle and use modern algebra to attempt to fix the puzzle. First, we find the permutation group for the case when there is only one empty slot at the top. We then examine the scenario when we add an extra column or an extra row to make the game a 4×5 puzzle or a 5×4 puzzle, respectively. We consider the possibilities when we delete a color to make the game a 3×3 puzzle and when we add a color, making the game a 5×5 puzzle. Finally, we determine if solution two is a permutation of solution one.

Date: Friday, February 26, 2016

Time: 2:30pm–3:30pm

Place: Exploratory Hall 4106

Pizza and soda will be served at the presentation.

For further information or for special accommodations, please contact Sean Lawton via email at seanlawton@gmail.com or drop by the MEGL.