



2018

Magic Cubes

Jeremiah Farrell

Butler University, jfarrell@butler.edu

Karen Farrell

Butler University, kfarrell@butler.edu

Follow this and additional works at: https://digitalcommons.butler.edu/facsch_papers



Part of the [Other Mathematics Commons](#)

Recommended Citation

Farrell, Jeremiah and Farrell, Karen, "Magic Cubes" / (2018): -.

Available at https://digitalcommons.butler.edu/facsch_papers/1027

This Article is brought to you for free and open access by the College of Liberal Arts & Sciences at Digital Commons @ Butler University. It has been accepted for inclusion in Scholarship and Professional Work - LAS by an authorized administrator of Digital Commons @ Butler University. For more information, please contact digitalscholarship@butler.edu.

Magic Cubes



USA



Exchanger: **Jeremiah Farrell**

Designer: Jeremiah Farrell

Assistant: Karen Farrell

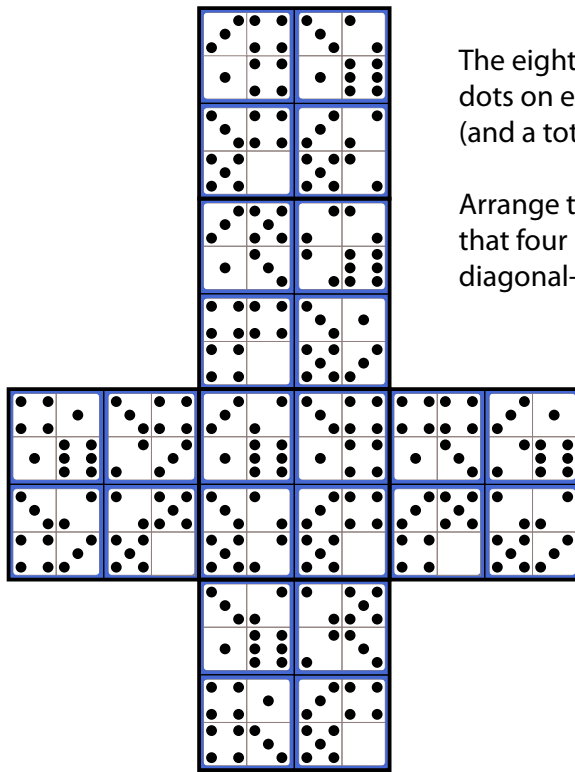
Manufacturer: Kadon Enterprises, Inc.

Material: Plastic



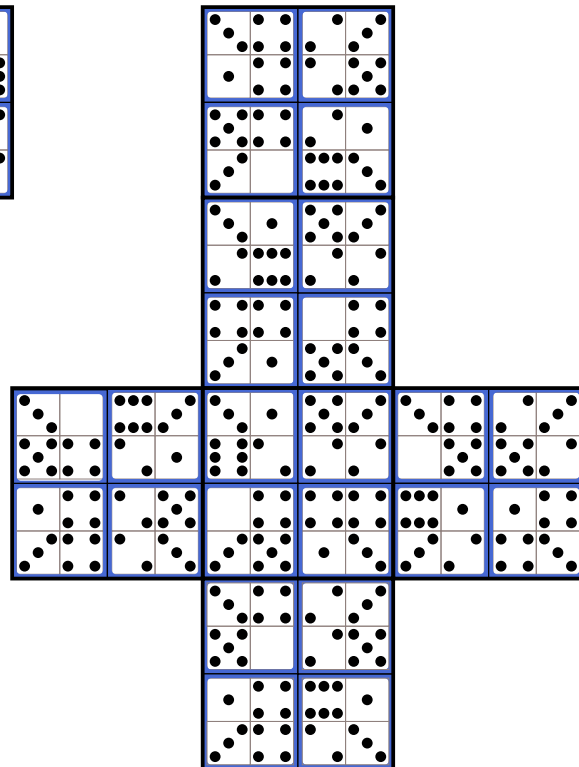
Puzzle Type (Slocum): 1.3 Miscellaneous Put-together
 Puzzle Type (Dalgety/Hordern): PAT-NUMB | Arrangements of Number Patterns

Objective: Form 4x4x4 cubes with magic squares on all sides.



The eight cubes have 2x2 arrangements of domino dots on each face, representing the numbers 0 to 6 (and a total of 12 dots on each face).

Arrange the eight cubes into a large 2x2x2 cube so that four numbers in every row, column, and long diagonal--on all 6 faces--show a sum of 12.



On the left is an unfolded diagram of one solution, where each face is also a most-perfect magic square, as defined by Dame Kathleen Ollerenshaw.

On the right is an exploded diagram of the same cube turned "inside out" (swapping layers in all three directions), which also happens to be a solution!