

Arithmetical, Geometrical and Combinatorial Puzzles from Japan
 by Tadao Kitazawa.
 Edited by Andy Liu and George Sicherman.
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time. That first time, you'd have to come in along the previously unused edge. That edge violates the black on the left, white on the right property. Therefore, because the grid is finite, you eventually have to reach the boundary and stop. That can only happen between two stones of opposite colors because you are always between two stones of opposite colors. That is, at one of the other corners. It cannot be the southeast corner. (Why?) If the path ends at the northeast corner, then the white stones on its right connect the sides. At the southwest corner, as would be the case in the extension of Figure 2, the black stones on the left would connect the top and bottom.

This book is packed full of exciting information and challenges and Hex lore. What are the winning strategies? No one knows beyond the first few small boards. What are the strongest opening moves? Again, we don't really know. There are interesting variants including one called Y in which the board is triangular and a winning path connects to all three sides. There are lots of rich directions here for investigation in which one could involve undergraduates. But, I suffer from a trivial cast of mind, I like puzzles like Figure 3. Can you find the two winning Black moves?

Speaking of puzzles, I want to point out Tadao Kitazawa's *Arithmetical, Geometrical and Combinatorial Puzzles from Japan*. Japan has an extensive recreational math and puzzle-designing culture that extends well beyond just Sudoku. Kitazawa is one of the leading puzzle makers of Japan and this collection of his creations, translated and edited by Andy Liu and George Sicherman, is very rich. I am telling myself that *MAA FOCUS* readers have all just finished their grueling spring semesters and deserve a break, some lighthearted summer math reading, and that's why I'm writing about Hayward and Kitazawa. But, really, it's the trivial mind I mentioned, I love these puzzles. I'll give you just one example. My favorite Kitazawa puzzles are the Tower

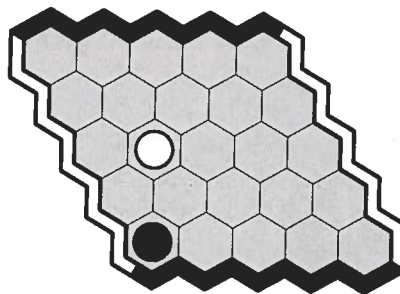


Figure 3. Find the two cells that are winning moves for Black.

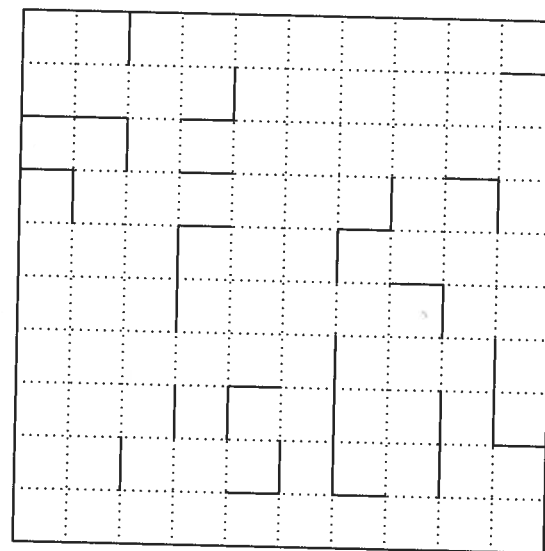
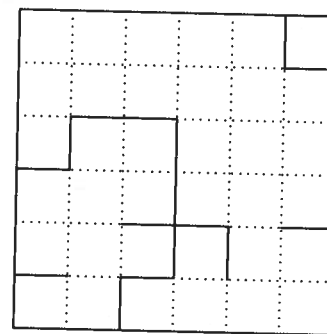


Figure 4. Sample order 3 and order 4 Tower Squares.

Squares. A Tower Square in an empty 6×6 or 10×10 square grid. Each row and each column is to be filled by one 1, two 2s, three 3s, etc. Squares separated by bold edges must contain the same number, squares separated by dotted edges contain different numbers. Figure 4 gives two examples.

Of course, as with Hayward's book, there are lots of directions for future investigation. I've been unable, for example, to even count the number of possible 6×6 Tower Squares with unique solution. Of course, I'm not fooling anybody. In the case of both of these books, I'm just in it for the puzzle-solving fun. I hope other trivial-minded, fun-seeking folks enjoy them. ■

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