

Killing Killer PsudoKu

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In traditional Sudoku, players are tasked with filling a 9x9 board with the numbers 1 through 9, with each number appearing once and not repeating in each column, row, and 3x3 subgrid. In Killer Sudoku, boards are created with irregularly shaped subcells, with an objective number that all the elements in the subcell must sum to. This inquiry involves identifying how to create an extension game board and analyzing game strategy. Two extension boards were explored. One board manipulated the types of numbers used, while the other manipulated the board's geometry. For each board, integer locations and game constraints were identified. Linear algebra and spreadsheet coding were used to identify board layouts. Once the game strategy was analyzed, rules were generalized into an algorithm to solve Killer Sudoku Extension boards. Overall, Killer Sudoku is an extension of Sudoku that opens up Sudoku to even more exploration. Through exploring these extensions, we can learn more about the essential workings of the game and of math itself.

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