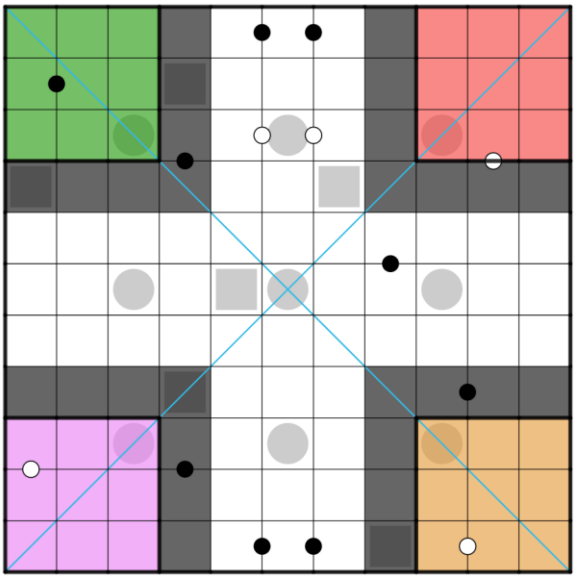
Chaos Deconstruction – Solve Path

By MantaRay



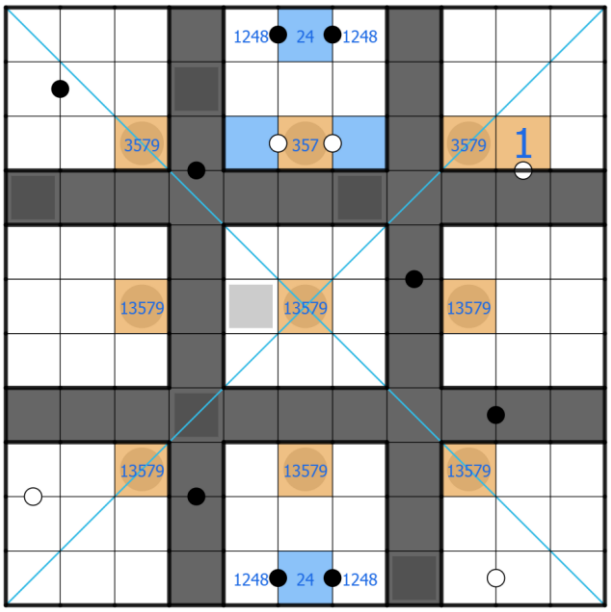
1. In a standard deconstruction puzzle, there are 121 cells – 81 of which must be taken by region cells.

2. The most efficient way placing a nine-cell region in the grid is to create a 3x3 box in a corner, which generates 7 empty cells surrounding it – anything else would require more than 7 cells.

3. Placing four boxes in the corner requires 28 of the 40 non-region cells. However, the new optimal way to place a nine-cell region is to make maximum use of the existing non-region cells.

4. Placing a 3x3 box in the space between two corner regions will only add 3 extra non-region cells. Doing this four times brings the total non-region cell count to 40 – the maximum allowed. Fortunately, there is a 3x3 region in the centre of the grid that is unoccupied where the final region can be placed.

5. From here on out, the puzzle can be treated as a regular 9x9 sudoku – albeit with empty rows and columns separating each adjacent box.

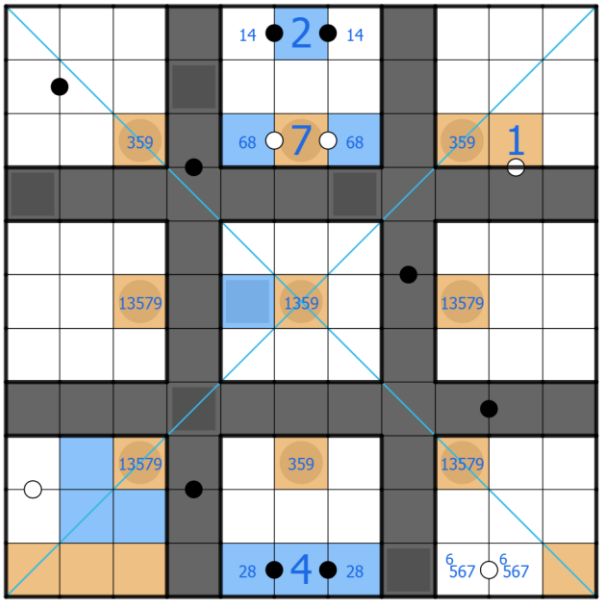


6. For the rest of the solve, orange cells will be used for odd values and blue for even (although not non-region cells, which have the value of 0). The even and odd cells can be coloured, and R3C10 must contain a 1.

7. A three-cell black Kropki must consist of three digits from 1-2-4-8, where the central digit is either 2 or 4.

8. R3C57 must be even, as they are consecutive with an odd digit. R1C567 cannot therefore be a 2-4-8 sequence, which sorts out the 2-4 pair in column 6.

9. R3C57 must now be a 6-8 pair, which places 7 in R3C6. The five circled cells on the diagonals must all be different, so 7 must exist in either R9C3 or R9C9. 1 cannot exist R9C6, as 1 could not then be placed in any of these cells.

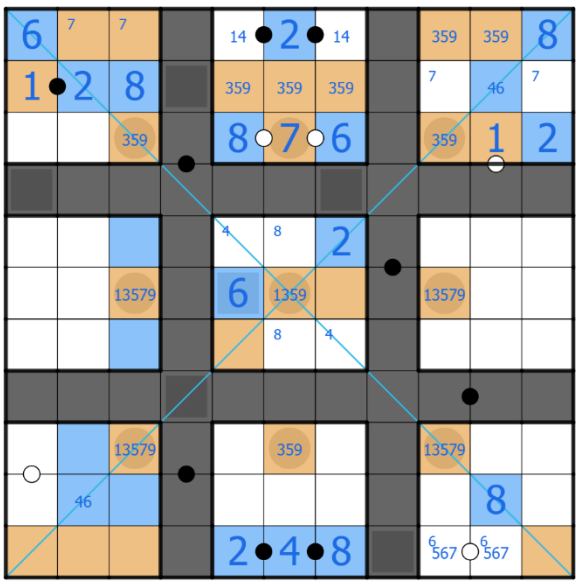


10. There must be a 6 on the white Kropki in row 11, meaning that all other cells in row 11 must be odd. This places four odd cells in box 7 – the fifth must exist on the white Kropki, making all other cells in box 7 even.

11. The 8 in column 6 must live in box 5. This means that two even digits are (partially) accounted for in box 5. But each diagonal currently has four odd digits already, so can only account for one more. This means that each diagonal must contain one odd and one even cell in box 5 – which accounts for the fifth odd cell on the diagonals and makes all other cells on each diagonal even.

12. R1C1 and R1C11 are a 6-8 pair, meaning all other digits in row 1 are odd. R2C567 must be a 3-5-9 triple, which makes the black Kropki in row 2 from 1-2-4-8. 1 must go in R2C1 or R2C3.

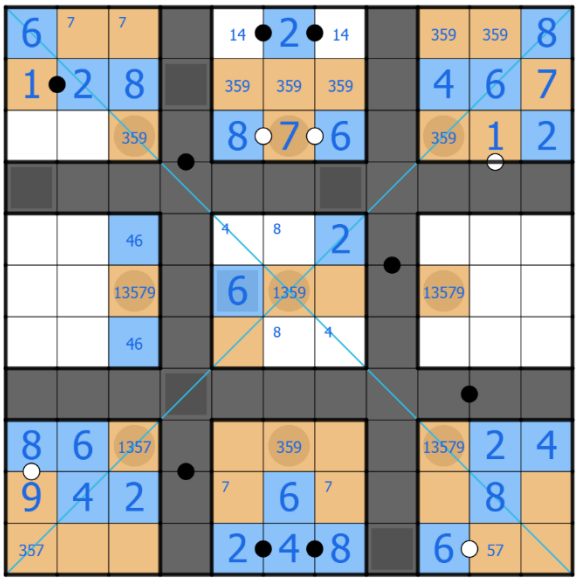
13. There are now five odd cells in column 3, making all other cells even. This now places 1 in R2C1 and a 2 in R2C2. R3C11 must be a 2. The 4 in box 3 must live in row 2, creating a 6-8 pair in box 1.



14. The positive diagonal requires a 2 on it, which must live in box 5. R6C5 is now either 4 or 6. Now the 4 on the positive diagonal is either in R2C10 or R10C2 – both of which see R10C10, which must now be an 8.

15. 8 can be placed in R1C11 and R2C3, meaning R1C1 is a 6. The even digit that must exist on the negative diagonal in box 5 must now be 4, placing a 6 in R6C5. This sorts out the 6-8 pair in box 2 and the 2-8 pair in box 8, placing 2 in R5C7 and making R7C5 odd.

16. 6 now lives in R10C6, colouring the rest of box 8 and disambiguating the 4-6 pair on the positive diagonal. The 6 in box 9 must now exist in R11C9.



17. There are five odd cells in row 9, so all other row 9 cells must be even. This places a 2 in R9C10 and a 4 in R9C11, which sorts the 4-7 pair in box 3.

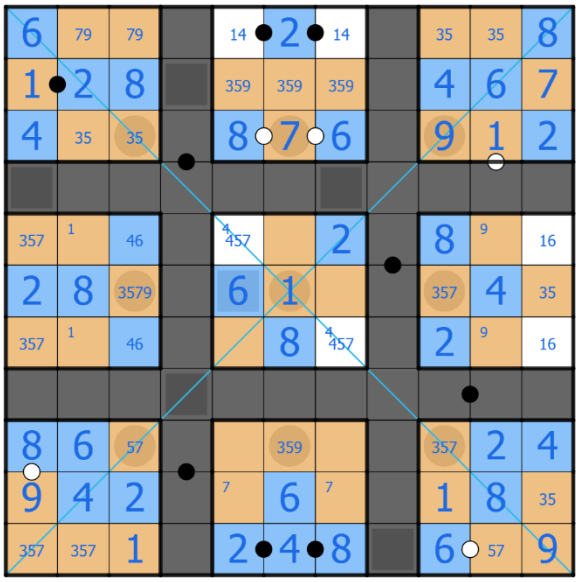
18. R10C2 is a 2, R9C1 an 8 and R9C2 a 6. R10C1 is either 7 or 9 – but the 7 in box 8 must live in R10C5 or R10C7, meaning R10C1 is a 9.

19. 9 in row 11 is placed in R11C11, removing it from all other cells on the negative diagonal. The 5 or 7 that exists in R11C10 is now placed in R9C3. Now, the only circled cell on the diagonals (remembering that there are five, all containing different digits) that can be a 9 is R3C9. R1C2-3 is now a 7-9 pair.

20. 4 in box 1 lives in R3C1, and 4 in box 6 goes in R6C10. The 2 in box 6 is placed in R7C9, leaving R5C9 as an 8. This places the 8 in box 5 and means R5C6 is odd. Most of box 6 can be coloured, as the 6 must go in either R5C11 or R7C11.

21. There are five odd cells in row 6, so R6C1-2 is a 2-8 pair – which is fixed by the 2 in R2C2.

22. R9C3 must exist on the negative diagonal, and as such must be the digit that accompanies 4 in the uncoloured cells in box 5. This means that the 1 on the negative diagonal is either in R6C6 or R9C9 – both of which see R6C9.



23. The 1 in column 9 is in either R9C9 or R10C9, meaning that R10C11 is either 3 or 5. 1 on the positive diagonal is in either R6C6 or R5C7. R5C7 would place a 1 in R1C7, leaving nowhere for 1 in box 8. This places 1 in box 9.

24. R6C11 is now either 3 or 5, creating a 3-5 pair in column 11 and making R5-7C11 a 1-6 pair. 1 in column 3 is in R11C3.

25. R9C9 is now from 3-5-7. If it was either 3 or 5, the only cell it could go into in column 3 is R6C3. But this would then mean that it could not exist in column 11. R9C9 is therefore a 7.

26. Much of the grid can now be sorted by sudoku. The 3-7 pair on the positive diagonal sees R7C2, which must be a 5. This sorts the 4-5 pair in box 5, which leads to the puzzle being completed through sudoku.

The Final Solution Is: