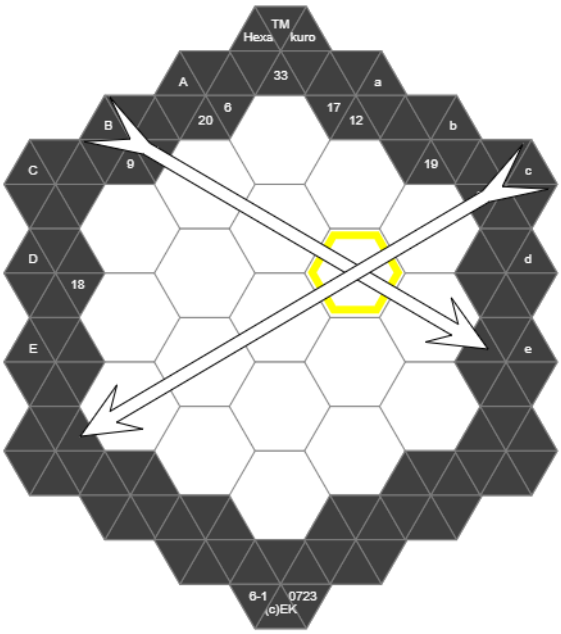
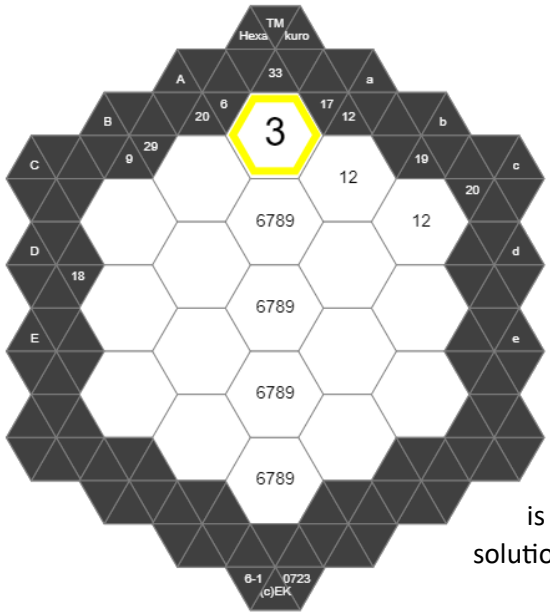
Sample Hexakuro Puzzle solution (for Hexakuro 6-1)



This screenshot of puzzle Hexakuro 6-1 shows the coordinate system which will be used in the discussion of the solution. One arrow goes from the upper left to the lower right along diagonal B. A second arrow goes from the upper right to the lower left along diagonal c. The highlighted hexagon at the intersection is hexagonBc. The center column would be designated column Aa-Ee

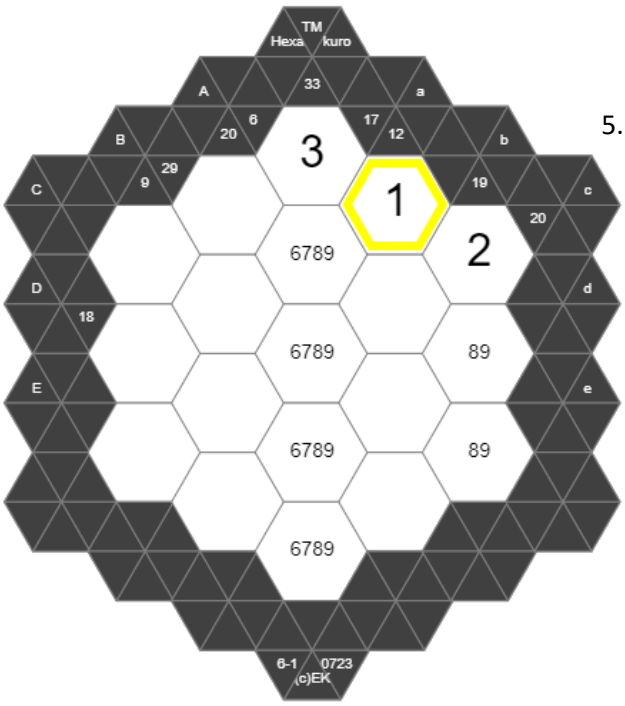


1. Notice that diagonal A has three hexagons adding up to 6. The only sum of three numbers adding up to 6 is 1+2+3. These can be in any order, and the set can be designated {1,2,3}.

2. Notice that column Aa-Ee has five hexagons adding up to 33. There are two possible sets of numbers which add up to 33, namely {3,6,7,8,9} and {4,5,7,8,9}

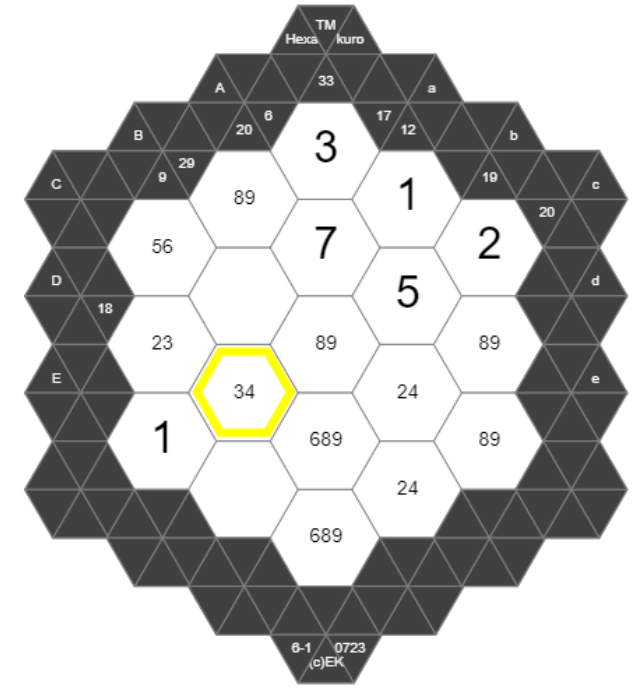
3. At the intersection of diagonal A and column Aa-Ee, hexagon Aa (highlighted) must contain a number which is in both {1,2,3} and {3,6,7,8,9} or {4,5,7,8,9}. The only solution is [3].

4. Using the "Set Guesses" function, the remaining possible numbers for diagonal A and column Aa-Ee have been filled in.



5. Column Ac-Ce contains three numbers adding up to 19. The number in hexagon Ac must be either 1 or 2. But no three distinct numbers including 1 add up to 19, so hexagon Ac must be [2] and the choices for the rest of the column are in the set {8,9}.

6. This leaves [1] as the only remaining solution for hexagon Ab.



7. Notice that diagonal B has four numbers adding up to 29. These must be chosen from the unique sum {5,7,8,9}.

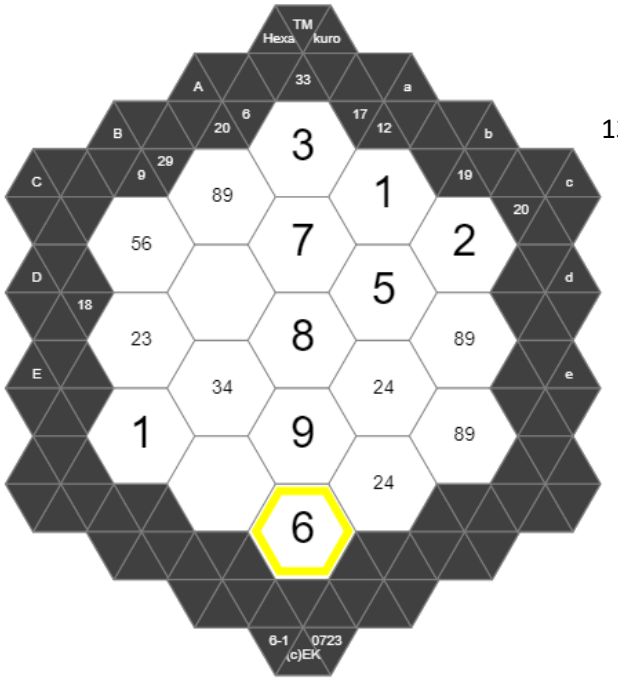
8. The two possibilities in column Ab-De for four numbers to add up to 12 are {1,2,3,6} or {1,2,4,5}. The only overlap between these possibilities and what is allowed for diagonal B is the number [5], so that must be the solution for hexagon Bc. The rest of column Ab-De must then be in {2,4}.

9. Diagonal a has three numbers adding up to 17, one of which is [3]. The other two numbers must be either 5+9 or 6+8 because 7+7 is not allowed (repeating numbers).

10. Since hexagon Ba is in the set {8,9} and hexagon Bd is in the set {8,9}, the remaining hexagon in diagonal B, namely hexagon Bb, must be [7].

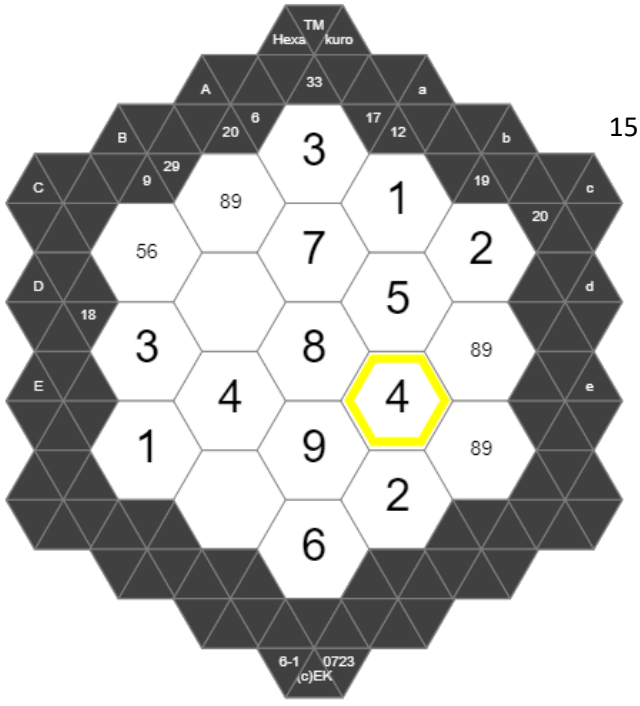
11. For column Ca-Ec to have three numbers add up to 9, with hexagon Ca being in {5,6}, one of the other hexagons in the column must be a 1. There is already a 1 in diagonal b, so this leaves hexagon Ec = [1].

12. Diagonal c has five numbers adding up to 20, including 1+5+2 = 8. Therefore hexagons Dc and Cc must add to 12, the choices being 3+9 or 4+8 since 6+6 is not allowed.



13. Diagonal D has four numbers adding up to 18. Three of these numbers are in the set {2,3,4} (hexagons Db, Dc and De). Since 18-2-3-4 = 9, Hexagon Dd must be [9].

14. It follows that hexagon Cc must be [8] and hexagon Ee must be [6].

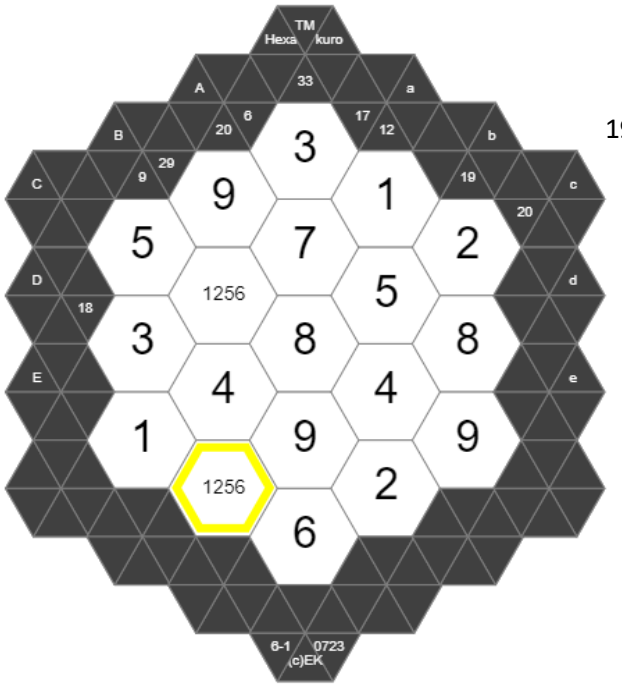


15. We can fill in the solution to hexagon Dc as [4] so diagonal c adds up to 20.

16. Then the only remaining solution for hexagon De is [2].

17. Then hexagon Db must be [3].

18. We can also now fill in the solution to hexagon Cd as [4].

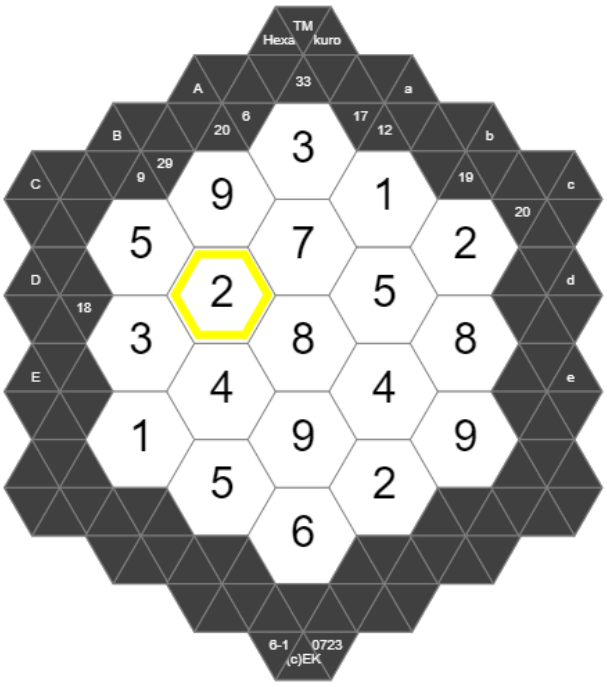


19. For column Ca-Ec to add to 9, hexagon Ca must be [5].

20. For diagonal a to add up to 17, hexagon Ba must be [9].

21. It then follows that hexagon Bd is [8] and hexagon Ce is [9].

22. We are left with two unsolved hexagons in column Ba-Ed which has four numbers adding to 20, two of which are 9+4 =13. The two remaining numbers (in hexagons Cb and Ed) must add to 20-13 = 7. The choices are 1+6 or 2+5 because 3+4 would cause a duplicate of the number 4 in the column.



23. Hexagon Ee cannot be a 1 or 6 since those are already used in diagonal E. Hexagon Cb cannot be a 5 since that is already used in diagonal C. So the only possibility is hexagon Ed = [5] and hexagon Cb = [2].

24. Now you should try to solve this puzzle yourself, using the guided solution if necessary.