How to Solve O'Ekaki
Paint by Numbers

O'Ekaki, that is to say Paint by Numbers, is a puzzle in which cells you color according to the numbers given at the side of the grid reveals a hidden picture. hidden picture. With the aid of examples, let us go through the rules and some techniques for solving the puzzle.

Rules

1. The numbers on the left of each row and the top of each column represent the lengths of consecutive colored cells.
2. The colored cell blocks occur in the same order as the numbers.
3. There is at least one blank cell between two colored cell blocks.

Example

problem

solution

Give it a shot!

Solving the example to the right.

The example grid (top right):

						2			
				1	1	1			
		1		4	1	1	2		
1	3	5	8	1	1	3	1	5	3

Rows:
- 3 — A
- 1 1 2 — B
- 4 2 — C
- 2 2 — D
- 8 — E
- 3 2 — F
- 3 2 — G
- 5 — H
- 1 — I
- 4 — J

Columns: ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

Basic Tips

1 Let's find the cells you can color in.

Point A

When more than half of the cells in a given row or column must be colored in, the cells in the central part of the row or column will be colored for certain.

In row E, there are 3 possible placements for the 8 consecutive cells, but the 6 cells in the center will be colored in any case.

Considering the possibilities a and c, which start from the leftmost and rightmost cells, you can color in where they coincide.

Stage 1 : You can color the cells in row E and column 4.

Point B

Where there is more than one number in a given row or column, you can find the cells that must be colored in if the sum of the numbers is greater than half of the given cells.

In this case, first, imagine that the 1 cell is placed at the left edge. Since there must be at least one blank cell between the blocks of colored cells, there are 8 cells left. Consider the leftmost and rightmost cases and take their intersection. You can color in 2 cells.

This technique can also be used where there are more than two clue numbers. Considering the leftmost and the rightmost possibilities, you can find cells to color in, as in the above.

Stage 2 : Color the cells in column 3 and column 8 like this.

2 Let's find cells that must remain blank.

Point C

Once you've colored in cells using the logic of Points A and B, your next step is to place crosses (X) in cells that must remain blank.
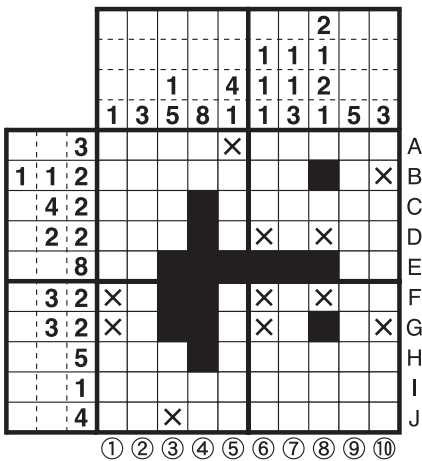

For row G, only the gray cells in possibilities a and b can be colored in. The cells with crosses must remain blank.

Stage 3 : In column 3, the cell at the bottom must be blank; otherwise, you would have a block of 6 colored cells. In column 6 you have three 1's, so you can place crosses above and below any colored cell. Moreover, the cells above and below the colored cell at 8-E must remain blank; given the order of numbers—2,1,2,1—cell 8-E has to be the first 1.

Point D

When the number of available cells in an area is smaller than the clue number, you can mark the cells with crosses. In addition, cells beyond the reach of already colored cells must remain blank.
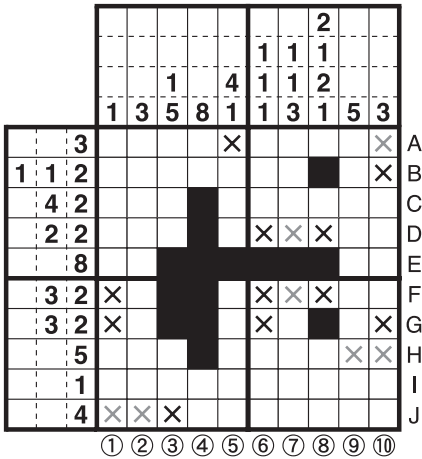
To the left of the cross, there are only two cells. These must also remain blank.

Even if the colored cell is the leftmost edge of the block of 5 consecutive colored cells, the two cells from the right edge will remain blank.
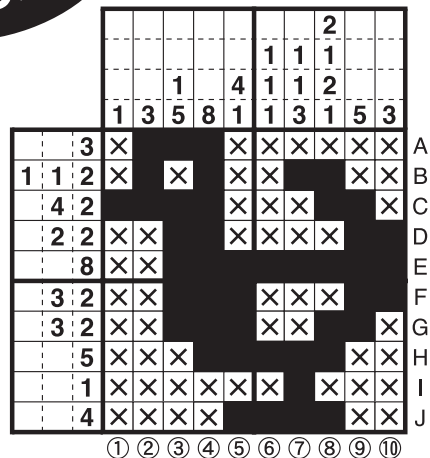
Stage 4

Point E

Narrowing down the possible placements of colored cells using crosses, apply the logic of Points A and B again, then Points C and D. Color in, cross out…repeat the process.
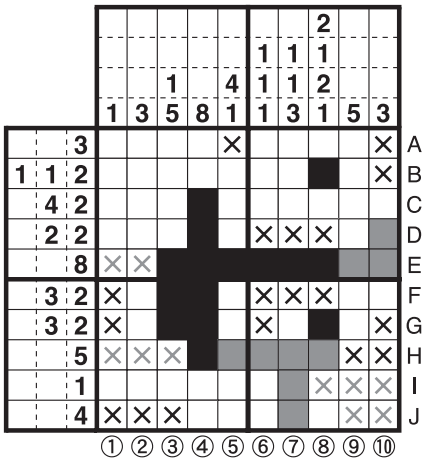
Done!

Stage 5

More tips

One basic technique in O'Ekaki is that when more than half of the cells in a given row or column must be colored in, the cells in the middle will be colored for certain. Here, let's look at two more convenient techniques you should know.

1 Relationship between colored cells and blank cells.

For example, if there are colored cells in the third row from the top, you can find cells to color in and crosses to place if the supplied column clues are the following:

(1) The number 4 or greater.
You can color the cell below the third row and the bottom cell of the box.

(2) The number 2. The cell at the top edge remains blank.

(3) The sequence 1, 2. The colored cell is part of a block of either 1 or 2 colored cells. If the former, there would be crosses above and below the cell. If the latter, the cell above it must remain blank because a block of 1 must precede it.

(4) The sequence 1, 1. You don't know which block of 1 the colored cell belongs to, but you can place crosses above and below the cell.

2. Look at rows and columns in a multifaceted way.

When there is no big number and it's hard to find a cell to color, you can determine which cells to color by looking at the relationship between rows and columns, especially around the edges.

If you placed the top row of 6 as in the picture on the left, 5 consecutive colored cells would appear in the second row, which does not correspond with the clue numbers for that row. The block doesn't go there.

Considering the relationships between rows and columns, you can color in a segment of the block of 6 as in the picture on the left. When those cells are colored, you can find all the colored cells for the second row.