## Sudoku

Rule: Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

| 4 |  |  |  | $A$ | 7 | 8 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 3 | 8 |  |  |  | 6 |  |
| 5 | 2 |  | 6 |  | 4 |  |
|  |  | 9 | 8 |  | 2 | 5 |
|  |  |  |  |  |  |  |
|  | 5 | 7 |  | 1 | 2 |  |
| 9 | 1 |  | 4 |  | 3 |  |
| 2 |  | 7 |  |  |  | 8 |
| 6 | 3 |  |  |  |  |  |


|  |  | 6 | 5 | 2 |  | 9 |  | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 9 | 8 | 1 | 7 | 4 | 6 | 5 | 2 |
| 5 | 7 | 2 | 9 | 6 | 8 | 4 | 3 | 1 |
| 7 | 6 | 9 | 8 | 3 | 2 | 5 | 1 | 4 |
|  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8 | 4 | 5 | 7 | 9 | 1 | 2 | 6 | 3 |
| 9 | 8 | 1 | 6 | 4 | 7 | 3 | 2 | 5 |
| 2 | 5 | 7 | 3 | 1 | 9 | 8 |  | 6 |
| 6 | 3 | 4 | 2 | 8 | 5 | 1 | 9 |  |

Answer Key: Enter the digits in shaded cells in alphabetical order.
For the example, the answer is "3192".


## Kakuro

Rule: Place a digit from 1 to 9 in each empty cell so that the sum of the digits in each horizontal/vertical group of cells equals the number given on its left/top.
No digit may repeat within a single sum.
Note: First puzzle is a Big-Easy one and second puzzle is a Small-Difficult one. Points table is not wrong.


Answer Key: Enter the digits in shaded cells in alphabetical order.
For the example, the answer is "1669".


## 32



## Fillomino

Rule: Divide the grid into polyominoes (figures formed by joining some squares edge to edge) so that each given number represents the size of polyomino that contains it.
No two polyominoes of the same size can share an edge.


Answer Key: Enter the size (only the last digit for 2-digit number) of polyomino that contains each shaded cell in alphabetical order. For the example, the answer is "2241".

14

| 2 |  | 2 |  |  | 2 |  | 2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | 5 | 2 | 3 | 6 |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 2 | 5 |  |  |  |  |  | 32 |  |
|  | 4 |  | 9 | 3 |  |  | 3 |  |
|  | 5 |  | 6 | 4 |  |  | 9 |  |
| 2 | 4 |  |  |  |  |  | 62 |  |
|  |  |  |  |  |  |  |  |  |
|  |  | 3 | 4 | 6 | 4 |  |  |  |
| 2 |  | 2 |  |  | 2 |  | 2 |  |



25


## Numberlink

Rule: Connect pairs of the same numbers with a continuous line that goes through edges of white cells horizontally or vertically. Each cell belongs to at most one line.

Answer Key: Enter the corresponding number (only the last

digit for 2-digit number) for each shaded cell in alphabetical order. If some of the shaded cells are not used by any lines, enter " X " for such cells. For the example, the answer is " 4780 ".


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## Slitherlink

Rule: Draw a single closed loop which connects some of the dots horizontally or vertically.
The loop cannot touch or cross itself. Numbers indicate how many edges of that cell are used by the loop.


Answer Key: Enter the lengths of line segments along the marked arrows.
For the example, the answer is "133, 1121". (Enter "0" for rows/columns with no line segments.)

## A $\quad$ B

17


## A.

## B.



## Masyu

Rule: Draw a single closed loop passing through the centers of orthogonally adjacent cells. The loop cannot touch or cross itself and must visit all circles. The loop goes straight at white circles, but makes a 90 degree turn in at least one of the adjacent cells. The loop makes a 90 degree turn at black circles, but cannot make a turn immediately before or after.


Answer Key: Enter the lengths of line segments in the marked rows and/or columns.
For the example, the answer is "112, 1". (Enter "0" for rows/columns with no line segments.)


## Heyawake

Rule: Blacken some cells so that all remaining cells must be connected orthogonally. No two black cells can share an edge. Any single horizontal or vertical line of white cells cannot traverse more than one thick line. Numbers indicate the amount of black cells in that region.


Answer Key: Enter the amount of black cells in the marked rows and/or columns.
For the example, the answer is " 3,3 ".


28

| 0 | 4 |  |  | 2 |  |  |  |  | 0 |  |  |  |  |  |  | 2 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



## Akari

Rule: Place lightbulbs in some of the white cells so that all white squares are illuminated. Lightbulbs illuminate all squares they can see horizontally and vertically.
They are blocked by black cells or the edge of the grid. No two lightbulbs may illuminate each other.
Numbers in black cells indicate how many orthogonally adjacent cells contain a lightbulb.


Answer Key: Enter the amount of lightbulbs in the marked rows and/or columns.
For the example, the answer is " 2,0 ".

B.

20


## Shikaku

Rule: Divide the grid into rectangles (including squares) so that each rectangle contains exactly one number. Each number represents the area (number of squares) of its corresponding rectangle.


Answer Key: Enter the amount of rectangles (including squares) in the marked rows and/or columns.
For the example, the answer is " 6,5 ".


## Hitori

Rule: Blacken some cells so that each row and each column does not contain the same digit more than once.
No two black cells can share an edge, and all remaining cells must be connected orthogonally.


Answer Key: Enter the amount of black cells in the marked rows and/or columns.
For the example, the answer is " 3,2 ".

| 1 | 1 | 8 | 12 | 3 | 10 | 4 | 10 | 11 | 2 | 6 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 10 | 2 | 3 | 7 | 9 | 5 | 6 | 12 | 8 | 9 | 11 |
| 8 | 2 | 11 | 9 | 4 | 7 | 3 | 4 | 10 | 5 | 12 | 6 |
| 9 | 5 | 6 | 7 | 5 | 4 | 2 | 12 | 1 | 8 | 7 | 3 |
| 5 | 6 | 12 | 6 | 2 | 3 | 8 | 9 | 7 | 4 | 10 | 8 |
| 12 | 3 | 7 | 10 | 6 | 1 | 1 | 5 | 8 | 7 | 4 | 7 |
| 10 | 9 | 6 | 8 | 10 | 2 | 7 | 12 | 3 | 11 | 5 | 4 |
| 11 | 7 | 4 | 2 | 9 | 8 | 12 | 3 | 9 | 12 | 11 | 5 |
| 5 | 4 | 10 | 4 | 12 | 6 | 9 | 2 | 8 | 7 | 3 | 11 |
| 7 | 12 | 5 | 3 | 11 | 2 | 3 | 10 | 4 | 6 | 8 | 10 |
| 3 | 11 | 3 | 5 | 8 | 12 | 6 | 9 | 2 | 10 | 1 | 1 |
| 4 | 8 | 2 | 11 | 4 | 5 | 12 | 7 | 5 | 6 | 2 | 9 |



B
28

| 7 | 7 | 9 | 3 | 5 | 2 | 10 | 6 | 11 | 6 | 12 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 11 | 1 | 10 | 2 | 3 | 5 | 1 | 5 | 8 | 5 | 9 |
| 9 | 4 | 1 | 3 | 2 | 4 | 11 | 4 | 10 | 4 | 7 | 4 |
| 11 | 6 | 1 | 7 | 2 | 8 | 4 | 9 | 3 | 5 | 10 | 1 |
| 5 | 1 | 6 | 3 | 9 | 10 | 2 | 10 | 7 | 10 | 4 | 8 |
| 11 | 8 | 5 | 6 | 4 | 9 | 3 | 5 | 2 | 7 | 1 | 12 |
| 2 | 12 | 5 | 1 | 7 | 12 | 6 | 12 | 8 | 12 | 9 | 12 |
| 12 | 5 | 11 | 8 | 4 | 6 | 3 | 7 | 2 | 9 | 1 | 10 |
| 7 | 9 | 12 | 12 | 3 | 11 | 8 | 11 | 1 | 11 | 6 | 2 |
| 10 | 9 | 4 | 11 | 10 | 5 | 3 | 8 | 6 | 2 | 1 | 7 |
| 3 | 10 | 10 | 11 | 8 | 1 | 7 | 12 | 4 | 12 | 2 | 5 |
| 12 | 2 | 11 | 5 | 12 | 7 | 3 | 4 | 9 | 6 | 1 | 3 |



## Shakashaka

Rule: Place one of the four isosceles right triangles ( $\boldsymbol{\square}, \boldsymbol{\square}, \boldsymbol{\sim}$ ) in some white cells. Every contiguous white region must be a rectangle (including a square). Numbers indicate how many triangles are adjacent to the cell by sides.


Answer Key: Enter the amount of black triangles you placed in the marked rows and/or columns.
For the example, the answer is " 6,8 ".


## Mochikoro

Rule: Blacken some cells so that every contiguous region of remaining cells must be a rectangle (including a square). All rectangles must be connected diagonally and there are no $2 \times 2$ area of black cells. Each rectangle contains at most one number, which represents the area (number of cells) of its corresponding rectangle. Cells with a number cannot be blackened.


Answer Key: Enter the amount of black cells in the marked rows and/or columns.
For the example, the answer is " 4,4 ".


## Yajilin+

Rule: Draw a single closed loop passing through the centers of or thogonally adjacent cells. The loop cannot touch or cross itself. Cells not used by the loop must be blackened, and no two black cells can share an edge. Numbers indicate the amount of black cells in at least one of the two possible directions (horizontal lines can point either left or right, and vertical lines can point either up or down).

Note: In classic Yajilin, directions of arrows are completely given. In this variant, determining directions is part of solving.


Answer Key: Enter the lengths of line segments in the marked rows and/or columns.
For the example, the answer is "22, 31". (Enter "0" for rows/columns with no line segments.)


Notice: the length of this line segment is " 3 "



40
A)

|  |  |  |  |  |  |  | $\overline{3}$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 2 | 2 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 3 |  |  |  | $\overline{0}$ |  | $2 \mid$ |  |  |  |  |
|  |  | 0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 01 |  |  |  |  |  | 3 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 31 |
|  |  |  |  |  |  |  | $3 \mid$ |  |  | $\overline{3}$ |  |  |  |  |
|  | 3\| |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | $2 \mid$ | 12 | $2 \mid$ |  | 21 |
|  |  |  |  |  |  |  |  |  | 21 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 0 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 2 |  |  |  |  |  |  |  |

