Instruction Booklet

Grids for all the puzzles in this contest are of 12x12 size, twelve puzzles have solid grids and three more are broken into four interconnected 6x6 grids (but they still form a single puzzle).

Duration of the contest is 150 minutes. 0.1 bonus points for each saved second (6 points per minute) will be added for solving everything ahead of time.

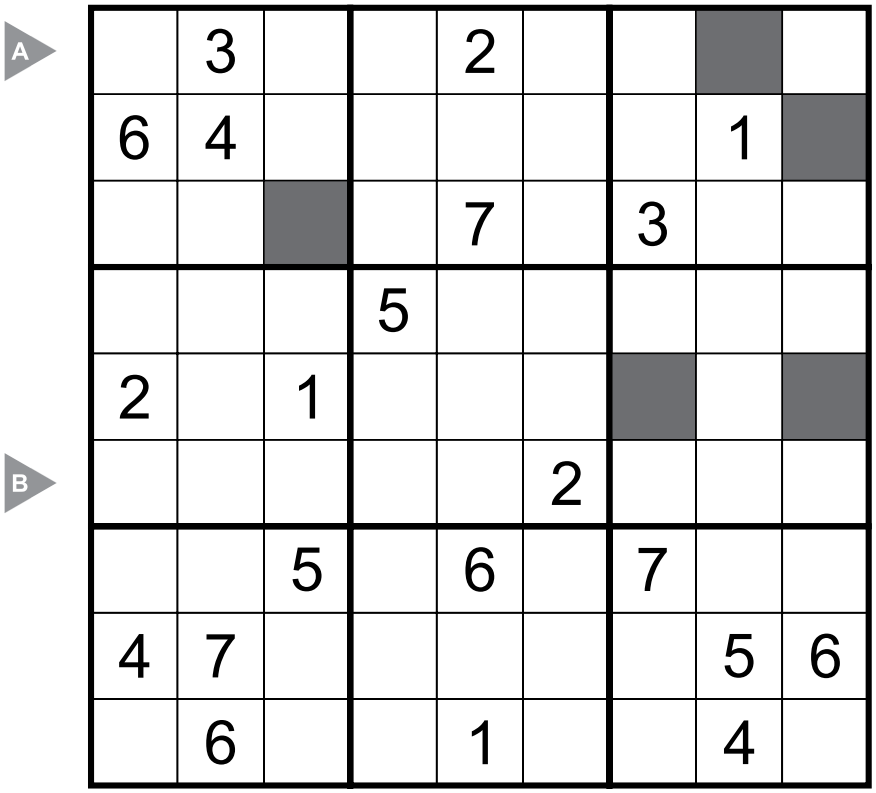
Participants can start solving anytime on dates from 6th to 8th December. For exact timing please check the submission page.

1. Shaded sudoku	60 points
2. Different neighbors	55 points
3. Alternating loop	16 points
4. NEWS	57 points
5. Kakuro	64 points
6. LITS	18 points
7. Snake in the naval forest	62 points
8. Pentomino areas	42 points
9. Regional star battle	38 points
10. Shikaku	20 points
11. Japanese railway	36 points
12. Tapa	22 points
13. Interconnected sudoku	42 points
14. Interconnected suguru	28 points
15. Interconnected fillomino	40 points
Total	600 points

My sincere thanks go to:
Prasanna Seshadri and **Andrey Bogdanov** for testing the puzzles
LMI for hosting the contest

Shaded sudoku - 60 points

Fill in the grid with the numbers 1 through 9 (7 in the example). Numbers should appear in each row, column and outlined area exactly once. Shade empty cells. Shaded cells shouldn't share the edges.

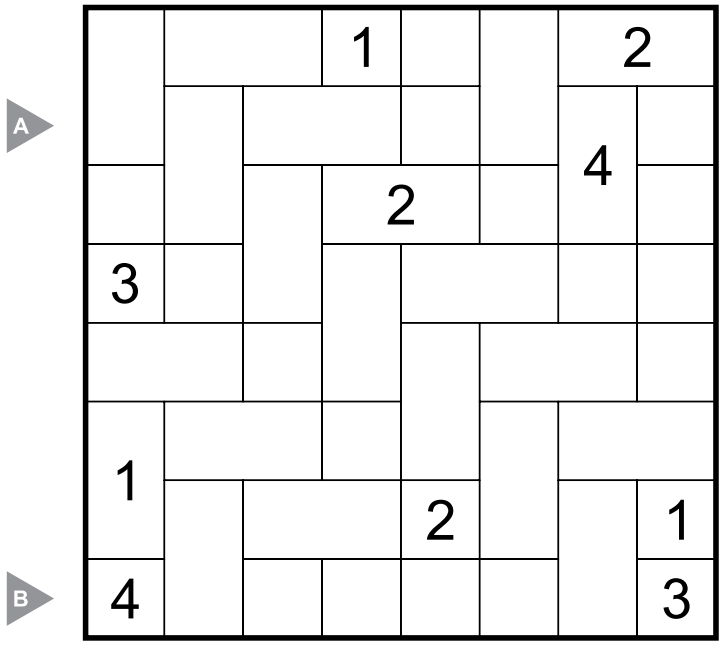


	3			2			■	
6	4						1	■
		■		7		3		
			5					
2		1				■		■
					2			
		5		6		7		
4	7						5	6
	6			1			4	

Answer key: the content of the marked rows. Use X for shaded cells.

Different neighbors - 55 points

Fill the grid with numbers from 1 to 4, so that the same numbered cells do not touch each other, not even diagonally.

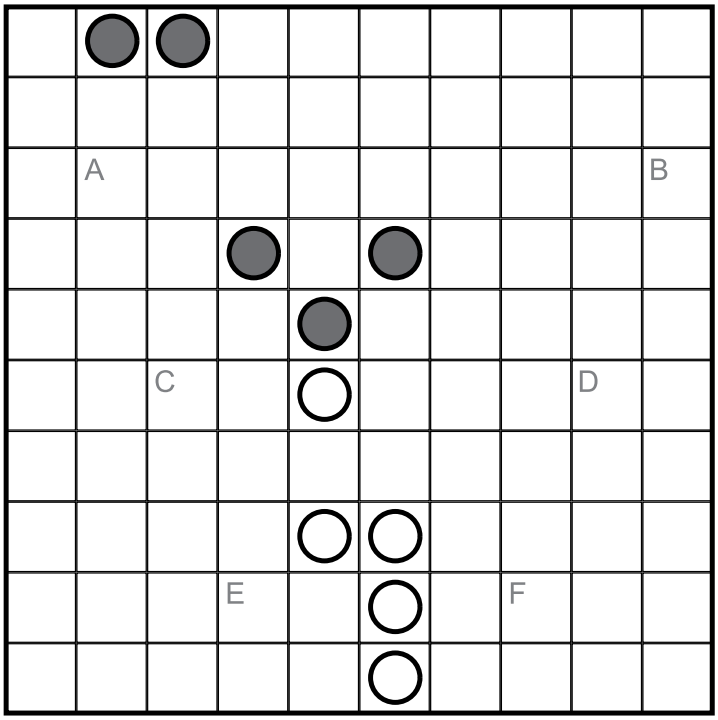


Answer key: the content of the marked rows.

Alternating loop - 16 points

Draw a single continuous loop going through the centers of all cells. The loop cannot touch or cross itself. White and grey circles should alternate going along the loop, i.e. there cannot be two consecutive circles of the same color.

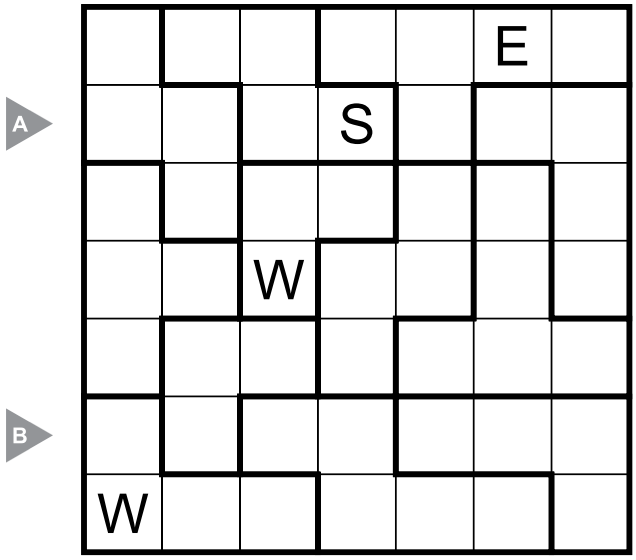
Ignore the letters while solving, they are for the answer key purpose only.



Answer key: the order of letters appearing along the loop starting from top left corner and going clockwise.

NEWS - 57 points

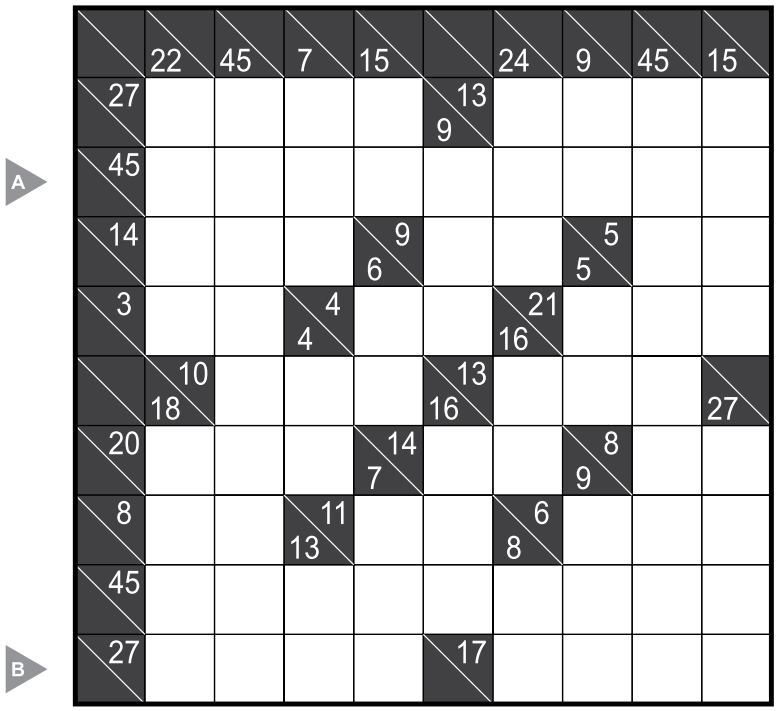
Place the given directions in the grid so that each region contains exacly two directions. Directions in one region should satisfy their positions to each other. No direction can be repeated within a row or column.



Answer key: the content of the marked rows. Use X for empty cells.

Kakuro - 64 points

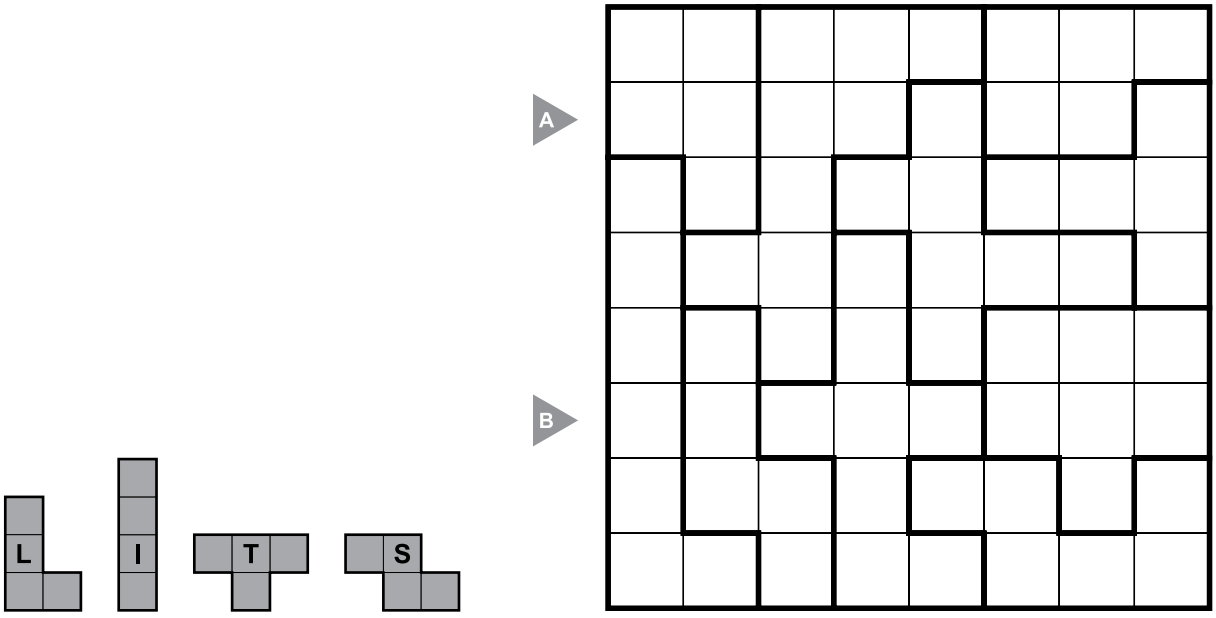
Place a single digit from 1 to 9 in each empty square so that the horizontal sums of the digits will equal the number given on the left, and the vertical sums of the digits will equal the number given above. No digit can be repeated within sums.



Answer key: the content of the marked rows.

LITS - 18 points

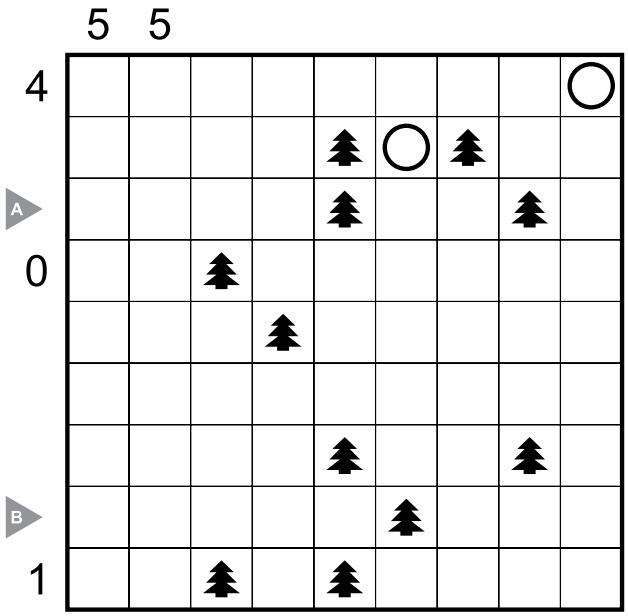
Shade four cells in each outlined region to form a single tetromino (L, I, T or S). All shaded cells are connected orthogonally, and there is no 2x2 square of cells consisting entirely of shaded cells. No two of the same kind of tetromino may touch along an edge, irrespective of rotation or reflection.

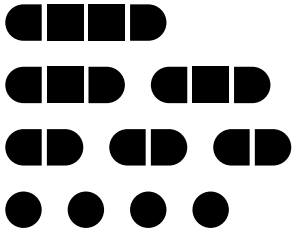


Answer key: LITS letters appearing in the marked rows in order.

Snake in the naval forest - 62 points

1. Attach a tent to each tree, in a horizontally or vertically adjacent cell. Cells with tents do not touch each other, not even diagonally.
2. Place the given set of ships into the empty cells of the grid. Ships cannot touch each other, not even diagonally.
3. Draw the snake throught all the cells that are left empty. Its head and tail are shown by the circles. Snake is 1-cell wide and doesn't touch itself even at a point.
4. Clues outside the grid show the number of occupied cells either by ships or by the snake in the corresponding row or column.

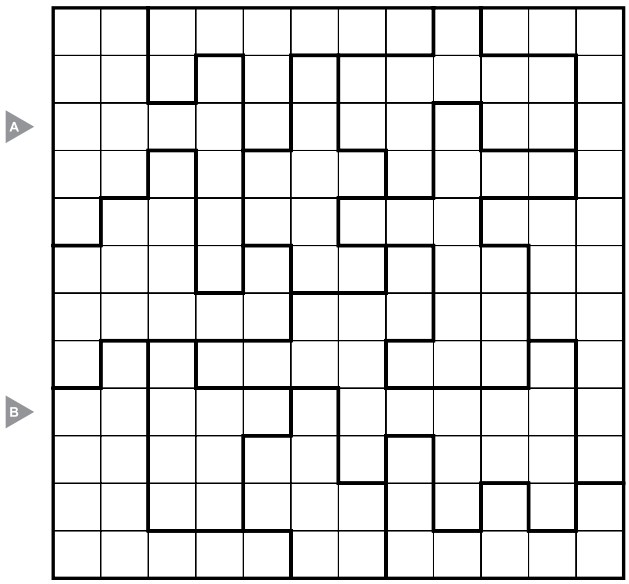


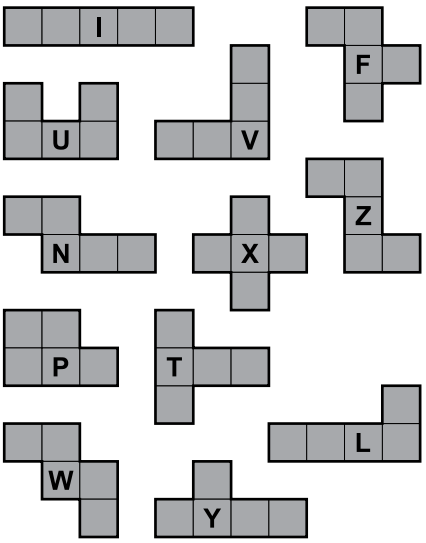


Answer key: the content of the marked rows. Use numbers 1 to 5 for the ships of such length, S for snake cells, T for tents and trees.

Pentomino areas - 42 points

Place complete pentomino set, one shape in each of the outlined area. Pieces can be rotated and / or reflected, but they cannot touch each other even at a point.



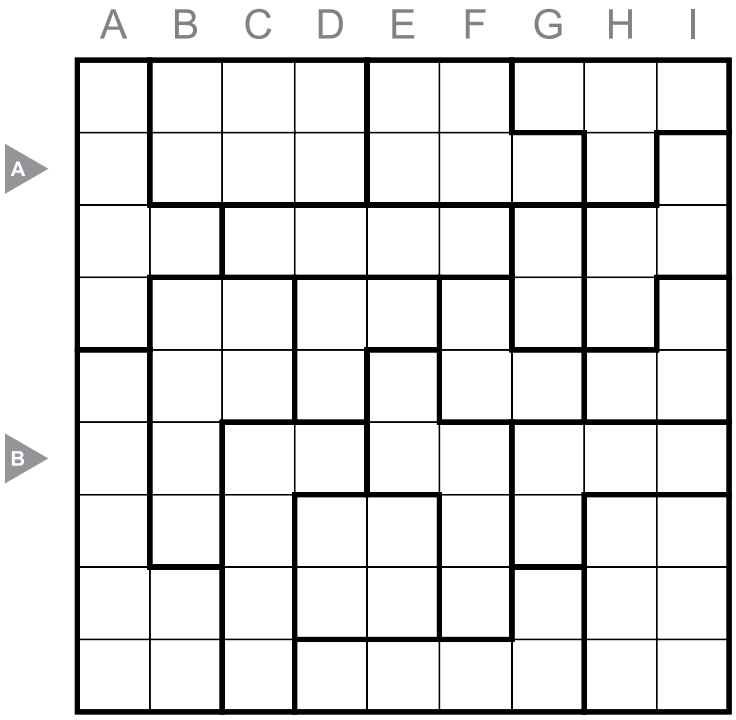


Answer key: pentomino letters appearing in the marked rows in order.

Regional star battle - 38 points

Place stars in some cells, one per each outlined region, so that each row and column has exactly two stars. Cells containing stars cannot touch each other, not even diagonally.

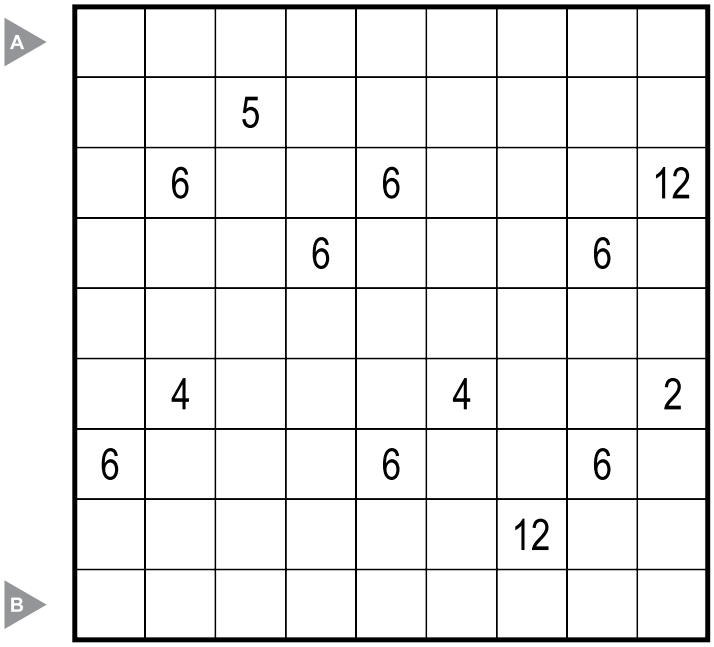
Ignore the letters while solving, they are for the answer key purpose only.



Answer key: the column letters where the stars in the marked rows are placed.

Shikaku - 20 points

Divide the grid up into a set of rectangles, such that every number is inside exactly one rectangle. The number inside each rectangle must be exactly equal to the number of grid cells that the rectangle contains. All grid cells are used.



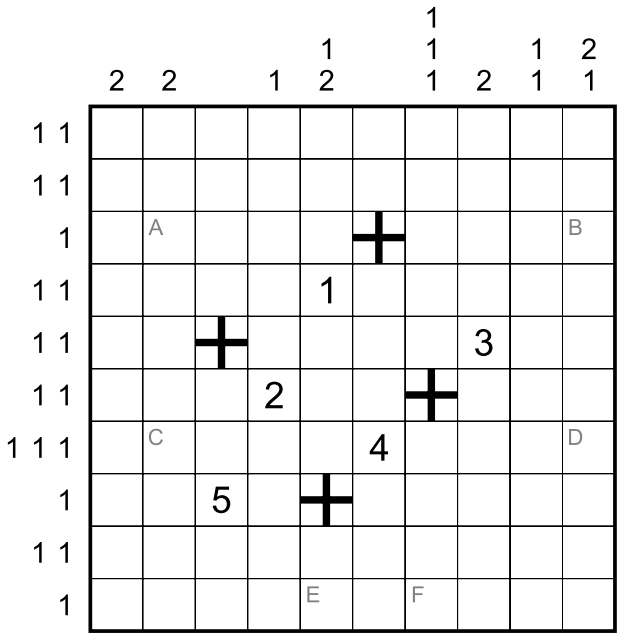
Answer key: the widths of the rectangles in the marked rows.

Japanese railway - 36 points

1. Shade some blank cells in the grid. Numbers outside the grid show the lenghts of consecutive shaded cells in corresponding rows/columns in order.

2. Draw a single closed loop going through all the unshaded cells. It should only cross itself in the cells with the crosses. Loop cannon make turns in the numbered cells, and all numbered cells should appear along the loop in order.

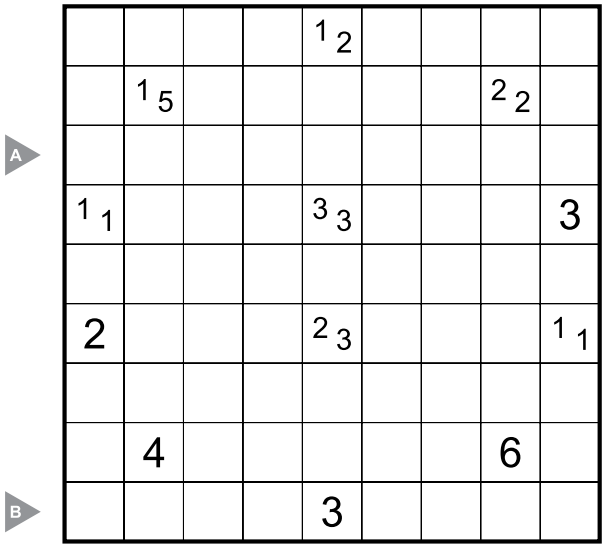
Ignore the letters while solving, they are for the answer key purpose only.



Answer key: the order of letters appearing along the loop starting from cell 1 and going in increasing direction.

Tapa - 22 points

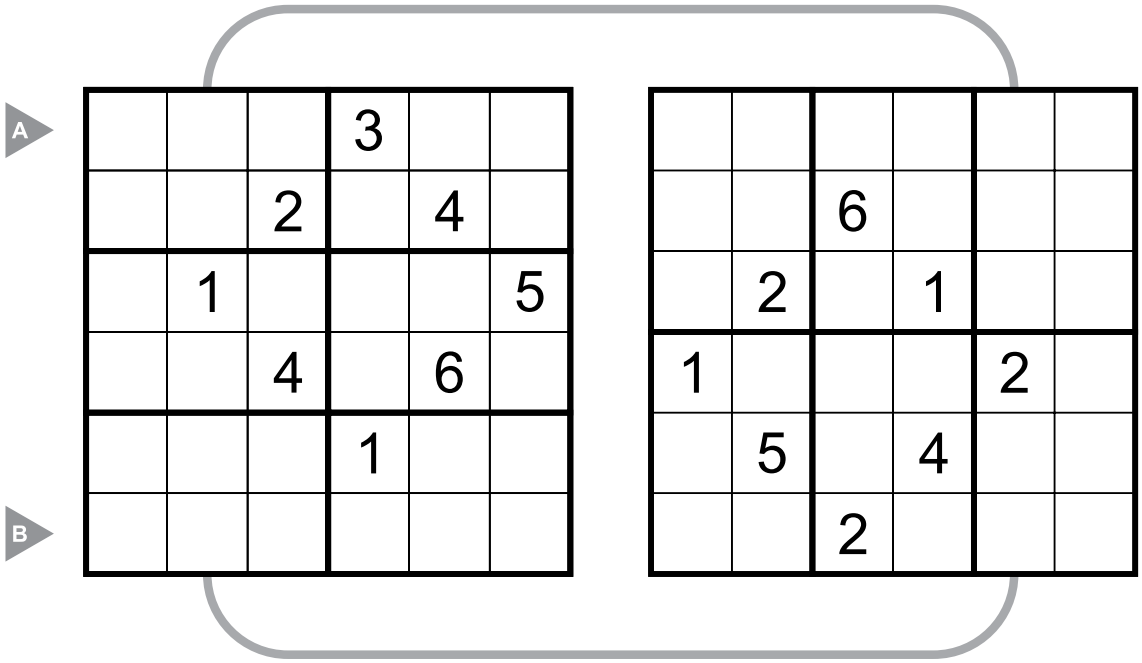
Shade some cells to create a continuous wall. Numbers in a cell indicate the length of shaded cell blocks in its neighbouring cells. If there is more than one number in a cell there must be at least one unshaded cell between the shaded cell blocks. Shaded cells cannot form a 2x2 square or larger. There are no wall segments on cells containing numbers.



Answer key: the lengths of consecutive shaded blocks of cells in the marked rows.

Interconnected sudoku - 42 points

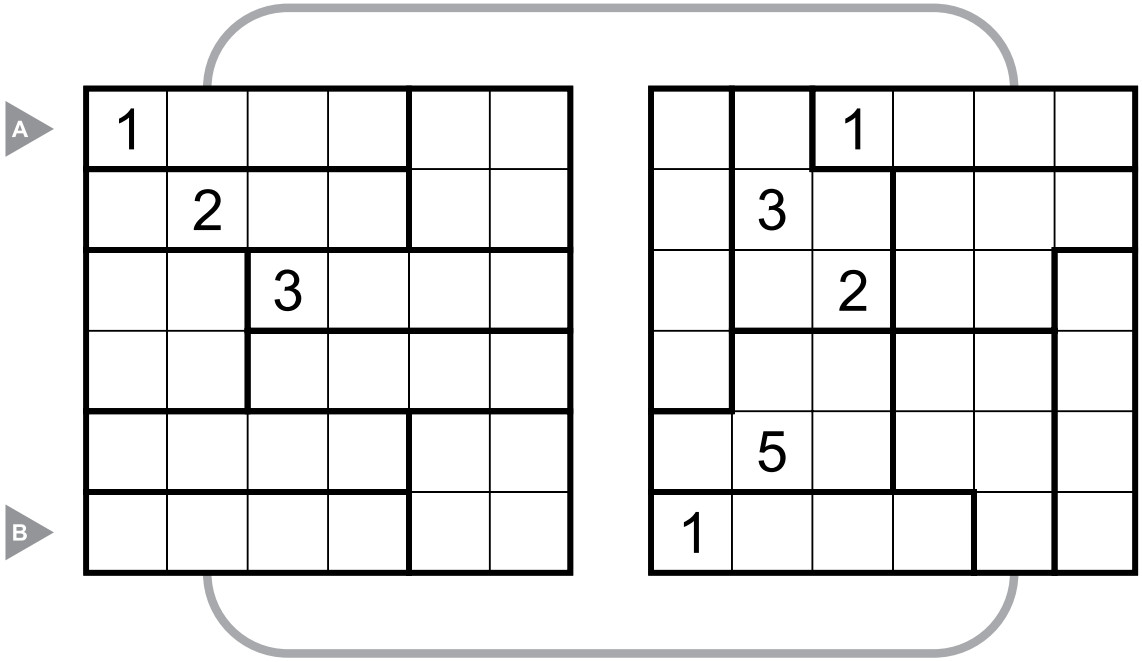
Fill in the grid with the numbers 1 through 6. Numbers should appear in each row, column and outlined area exactly once. Thick grey lines connect the same numbers.



Answer key: the content of the marked rows.

Interconnected suguru - 28 points

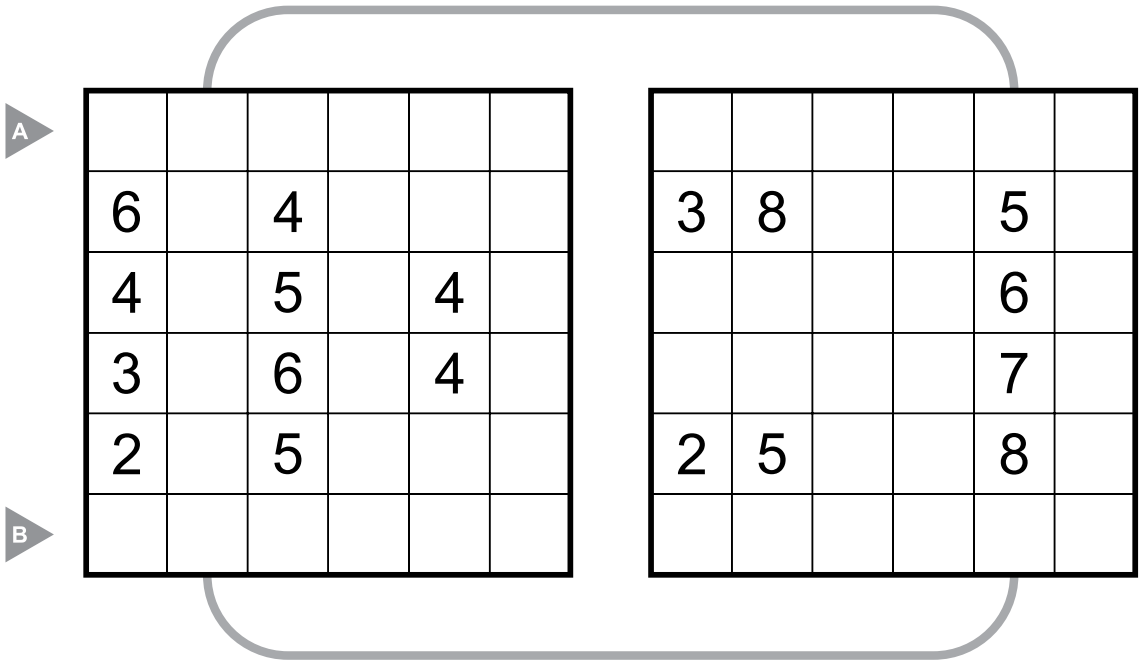
Place a digit into every cell. Each bold-outlined region must contain each digit from 1 to the number of cells in that region. Identical digits cannot touch, not even diagonally. Thick grey lines connect the same numbers.



Answer key: the content of the marked rows.

Interconnected fillomino - 40 points

Fill each empty cell with a number such that every number in the grid is part of a continuous region of that many cells. A region is continuous whenever two cells touch orthogonally. Two different regions made up of the same number of cells cannot touch orthogonally. Thick grey lines connect the same numbers.



6		4			
4		5		4	
3		6		4	
2		5			

3	8			5	
				6	
				7	
2	5			8	

Answer key: the content of the marked rows.

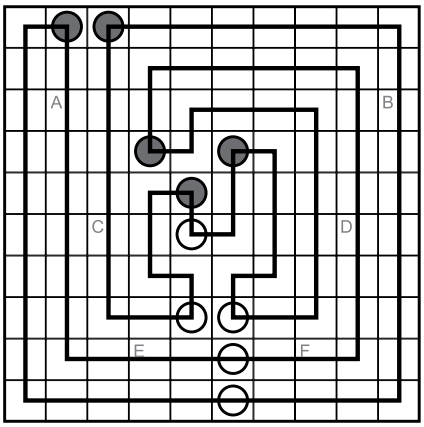
Solutions

Shaded sudoku

5	3		6	2	1	4		7
6	4	7		5	3	2	1	
1	2		4	7		3	6	5
3		4	5		7	6	2	1
2	5	1	3	4	6		7	
7		6	1		2	5	3	4
	1	5	2	6	4	7		3
4	7	2		3		1	5	6
	6	3	7	1	5		4	2

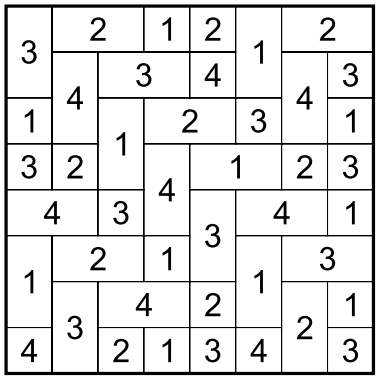
A: 53X6214X7; B: 7X61X2534

Alternating loop



AEFDCB

Different neighbors



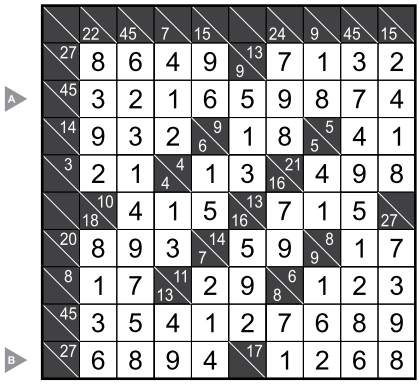
A: 3434143; B: 43213423

NEWS

N	W				E	
	E		S	W		N
			E		N	S
	N	W		E	S	
S		N	W			
	S		N		W	E
W		E		S		

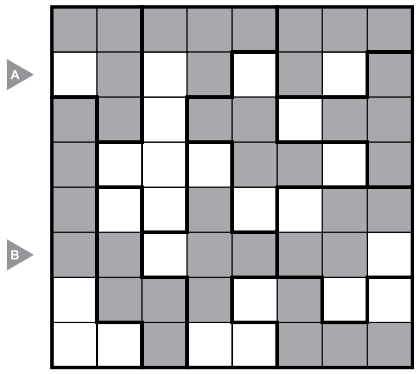
A: XEXSWXN; B: XSXNXWE

Kakuro



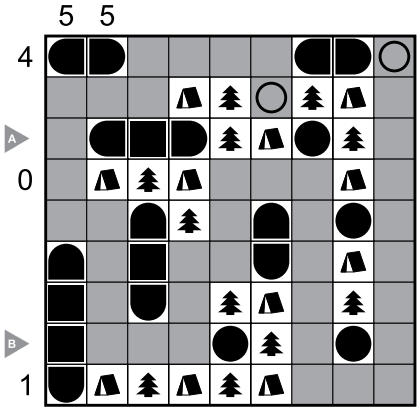
A: 321659874; B: 68941268

LITS



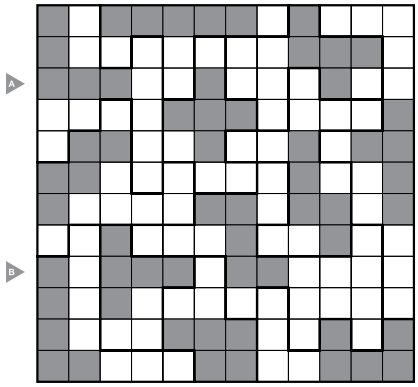
A: LTLT; B: ISTS

Snake in the naval forest



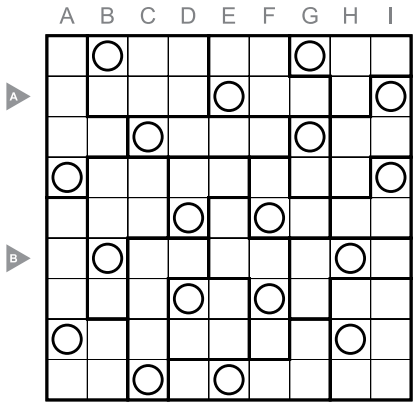
A: S333TT1TS; B: 4SSS1S1S

Pentomino areas



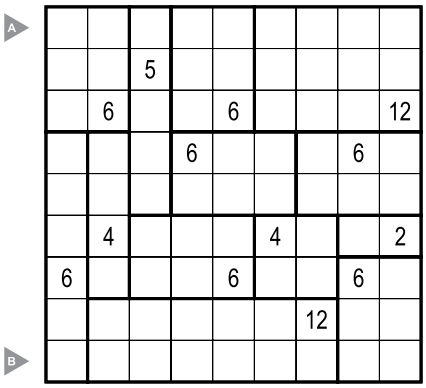
A: VXF; B: LTZ

Regional star battle



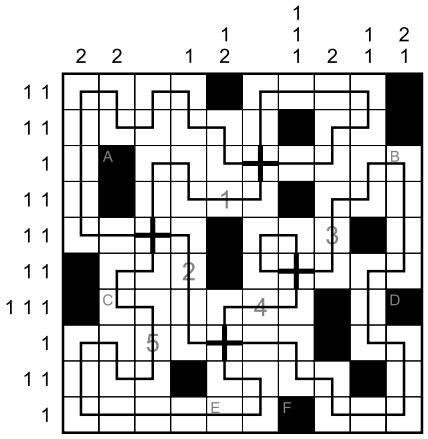
A: EI; B: BH

Shikaku



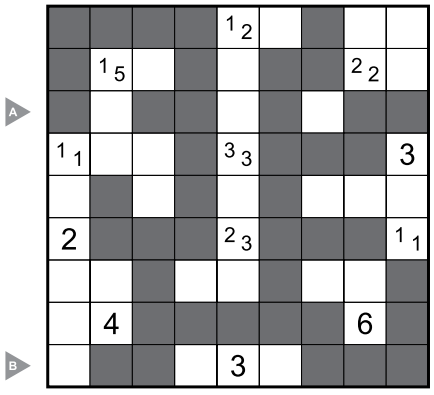
A: 2124; B: 162

Japanese railway



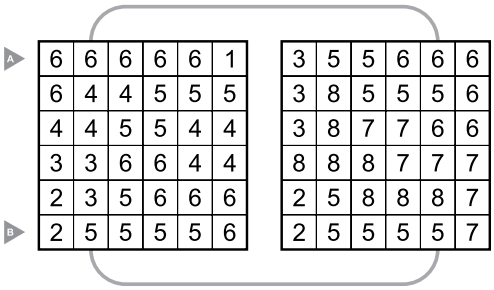
BEC

Tapa



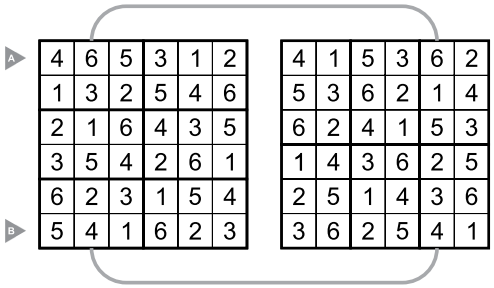
A: 1212; B: 23

Interconnected fillomino



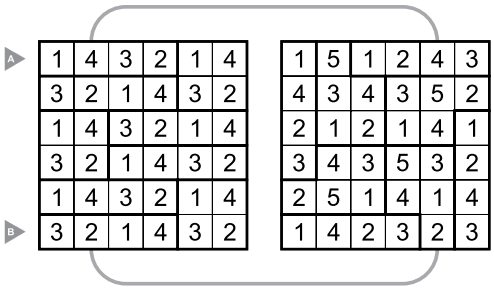
A: 666661355666; B: 255556255557

Interconnected sudoku



A: 465312415362; B: 541623362541

Interconnected suguru



A: 143214151243; B: 321432142323