

WPF
SUDOKU/PUZZLE
GRAND PRIX
2014

WPF PUZZLE GP 2014 COMPETITION **BOOKLET**

ROUND **4**

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Organised by


WORLD PUZZLE FEDERATION



Note: Some instructions have been modified slightly since the initial release of the instructions. (Numberlink has unused "black squares", Coded Coral has a clarification added that zero is not a number, and Easy as ABC has a rule about squares without a letter.)

Submission Page: <http://gp.worldpuzzle.org/content/puzzle-gp>

Points:

1	Yajilin	14
2	Slitherlink	19
3	Numberlink	8
4	Heyawake	25
5	Fillomino	23
6	Easy as ABC	34
7	Spiral Galaxies	27
8	Pyramid	38
9	Domino Search	51
10	Pentominoes	75
11	Nurikabe	28
12	Coded Coral	32
13	Liar Diagonal Slitherlink	79
14	Maximal Lengths	24
15	Japanese Sums and Loop	41
16	Prime Place	69
TOTAL:		585

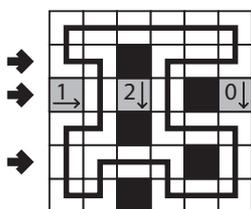
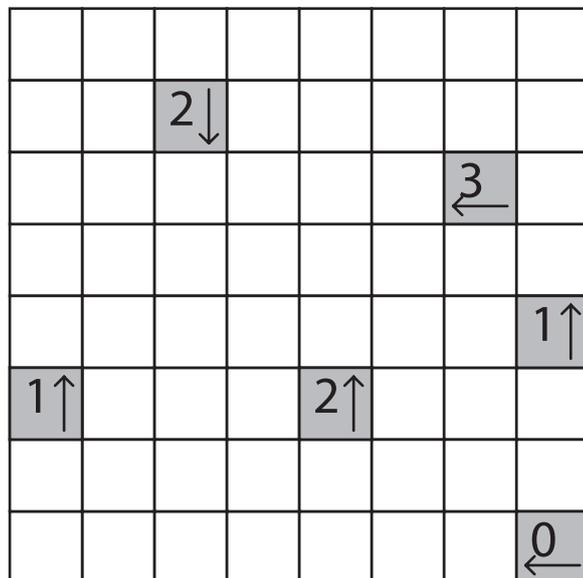


1. Yajilin (14 points) [Jiří Hrdina]

Blacken some white cells and then draw a single closed loop (without intersections or crossings) through all remaining white cells. Loop paths must be orthogonal. Blackened cells cannot share an edge with each other. Some cells are outlined and in gray and cannot be part of the loop. Numbered arrows in such cells indicate the total number of blackened cells that exist in that direction in the grid.

Answer: For each row, enter its contents from left to right according to the following code: 'L' for a cell that the path makes a right-angle turn in, 'I' for a cell that the path goes straight in, 'X' for a gray or blackened cell.

Example Answer: LLXLIL, XIXIXX, ILILXI

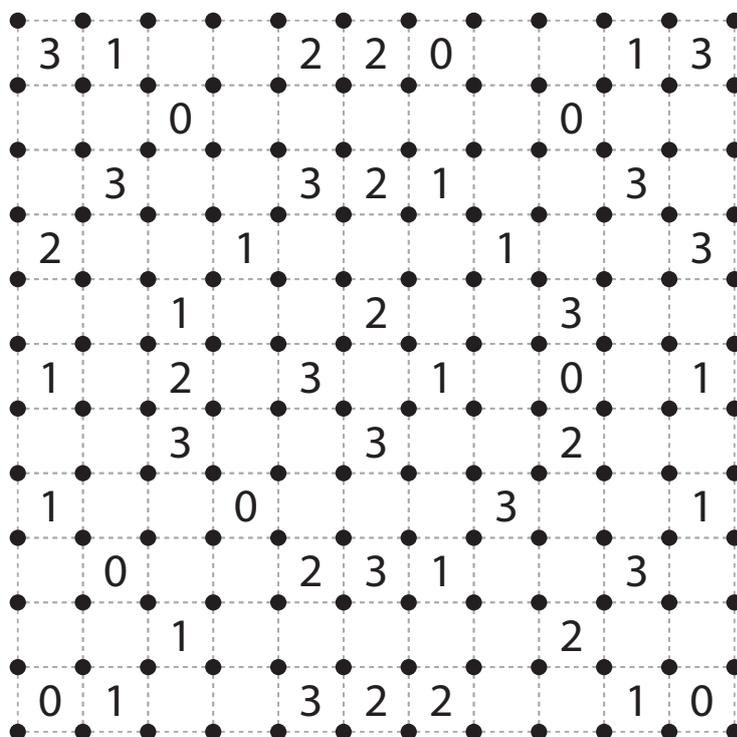
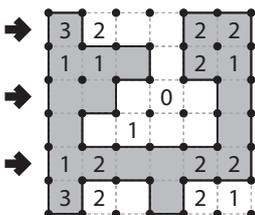


2. Slitherlink (19 points) [Jakub Hrazdira]

Draw a single, non-intersecting loop that only consists of horizontal and vertical connections between the dots. Numbers inside a cell indicate how many of the edges of that cell are part of the loop.

Answer: For each designated row, enter the length (number of cells) of each segment of cells inside the loop, from left to right. Use only the last digit for two digit numbers; e.g., use '0' for a segment of length 10. If there are no cells inside the loop for a row, enter the single digit '0'.

Example Answer: 12, 21, 6





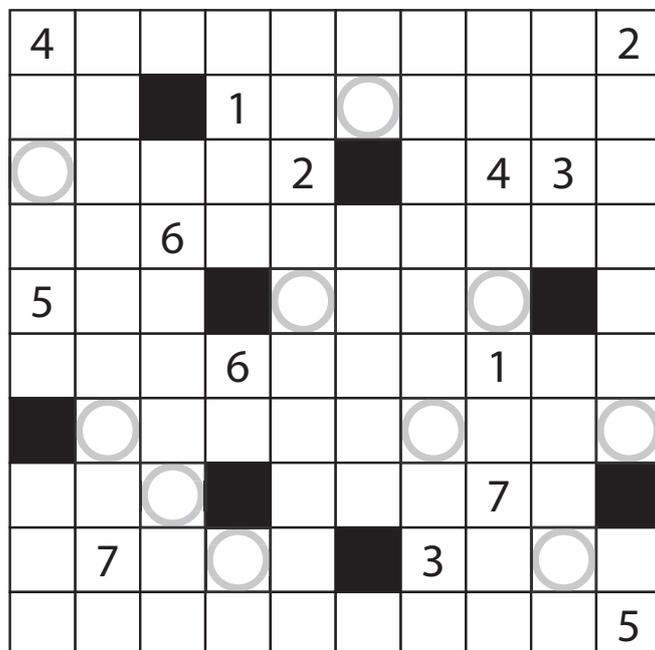
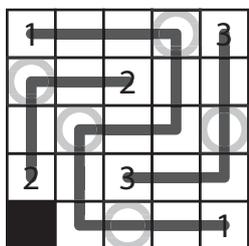
3. Numberlink (8 points) [Jiří Hrdina]

Some cells in the grid are marked with numbers; each number appears exactly twice and no cell contains more than one number. For each pair of identical numbers, draw a path that connects those two numbers. The paths must go through orthogonally adjacent cells. Each cell may be visited by at most one path, and may be visited at most once by that path. (It is permissible for a cell to not be visited by any path.) Blackened cells may not be visited by any path.

The circles in the diagram are for Answer purposes only.

Answer: Enter one digit for each of the circled cells, from left to right. (Ignore which rows the circles are in.) If no path goes through the cell, enter a single digit '0'. Otherwise, enter the number associated with the path that goes through the cell. Use only the last digit for two digit numbers; e.g., use '0' if the circle is on the path that connects 10 and 10.

Example Answer: 21113



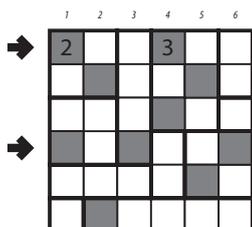
4. Heyawake (25 points) [Jiří Hrdina]

Blacken some cells so that all remaining cells are connected orthogonally and no two black cells share an edge. The grid is divided into regions by thick borders; a number in a region indicates exactly how many cells in that region must be shaded black. Every "word" in the grid (a group of unblackened cells connected to each other either only horizontally or only vertically) may not cross more than one thick border.

The numbers above the diagram are for Answer purposes only.

Answer: For each indicated row, enter the column numbers of the cells that are blackened from left to right. If there are no blackened cells in the row, enter a single digit '0'. Use only the last digit for two digit numbers; e.g., use '0' if the cell in column 10 is blackened.

Example Answer: 14, 136

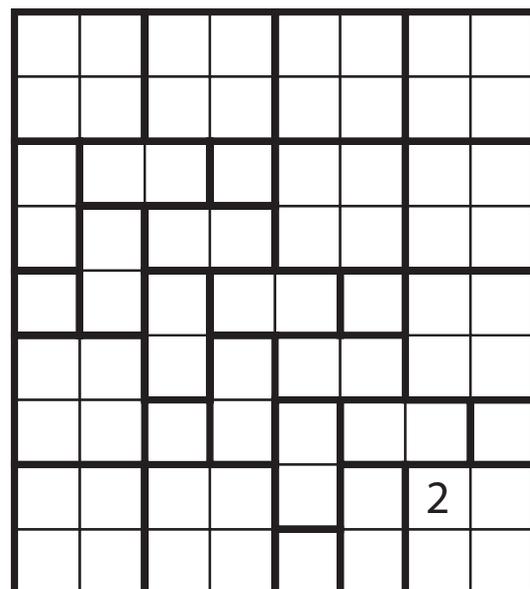


1 2 3 4 5 6 7 8

4a →

4b →

4c →





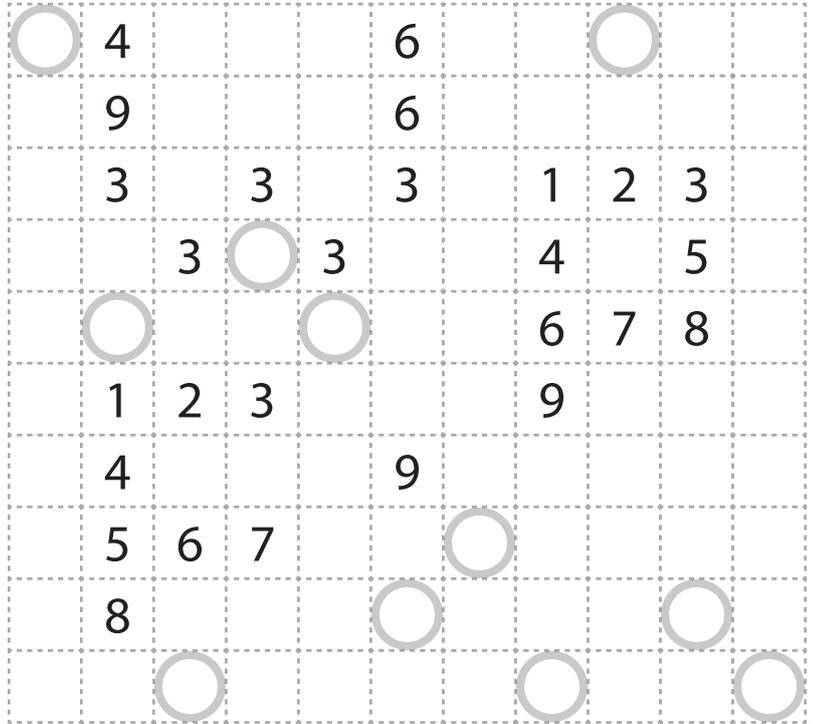
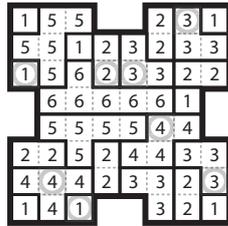
5. Fillomino (23 points) [Jakub Hrazdira]

Divide the grid along the dotted lines into regions (called polyominoes) so that no two polyominoes with the same area share an edge. Inside some cells are numbers; each number must represent the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers. (It is possible to have a "hidden" polyomino: a polyomino without any of the given numbers, with an area of a value not present in the starting grid, such as a 6 in a puzzle with only clues numbered 1-5.)

The circled cells are only used for entering your answers.

Answer: Enter the size of the polyomino each circle is in, reading the circles from left to right. (Ignore which row the circles are in.) Use only the last digit for two-digit numbers; e.g., use '0' for a segment of length 10.

Example Answer: 14123433

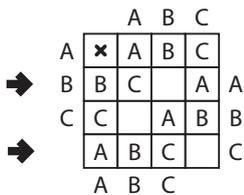


6. Easy as ABC (34 points) [Jakub Hrazdira]

Place letters C, Z, E, H (A, B, C in the example) in the cells, so that each letter appears exactly once in each row and column. Each cell must have at most one letter, but can be empty. Clues outside the grid indicate the first letter in the respective row or column, seen from that direction. Cells marked with an 'x' cannot contain a letter.

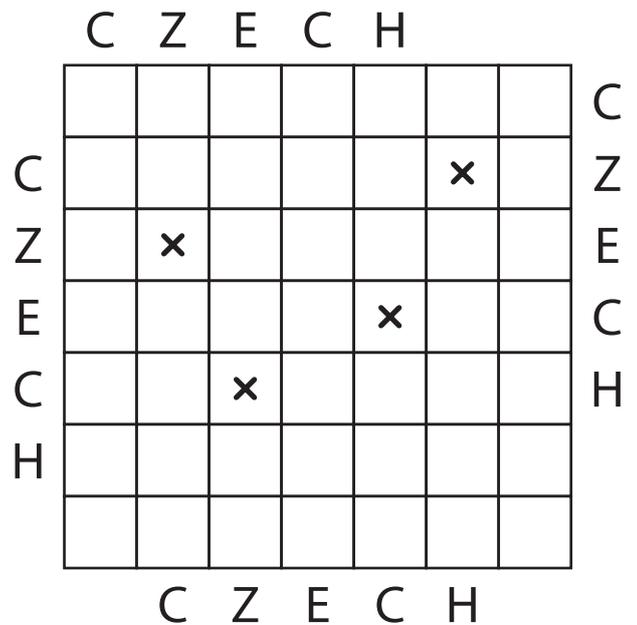
Answer: For each designated row, enter its contents. Use 'x' to designate an empty cell.

Example Answer: BCXA, ABCX



6a →

6b →



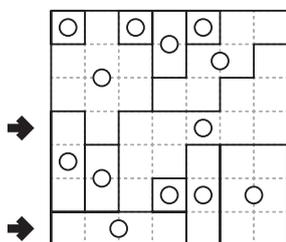


7. Spiral Galaxies (27 points) [Jiří Hrdina]

Divide the grid along the dotted lines into regions so that every cell is part of exactly one region. Each region must be rotationally symmetric (has the same shape when rotated 180 degrees) with exactly one dot inside it, at the center of rotation. (It is permissible to have a region of size exactly one cell, as long as that cell has a dot in its center.)

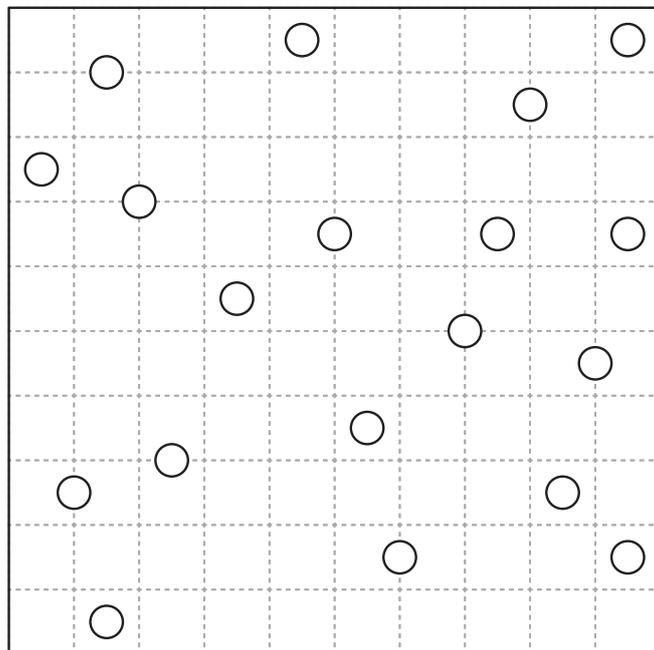
Answer: For each cell (from left to right) in the indicated rows, enter the size (in cells) of the region that cell belongs to. Use only the last digit for two-digit numbers; e.g., use '0' for a segment of size 10.

Example Answer: 38111111, 4444366



7a →

7b →

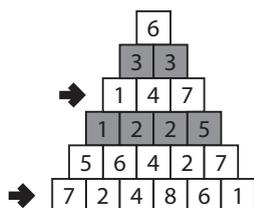


8. Pyramid (38 points) [Jakub Hrazdira]

Place a number from 1-9 in each cell so that each number (in all but the bottom row) is either the sum or the (absolute) difference of the two numbers underneath it. The white rows must contain all different numbers, while the shaded rows cannot contain all different numbers (that is, at least two cells in the row must contain the same number).

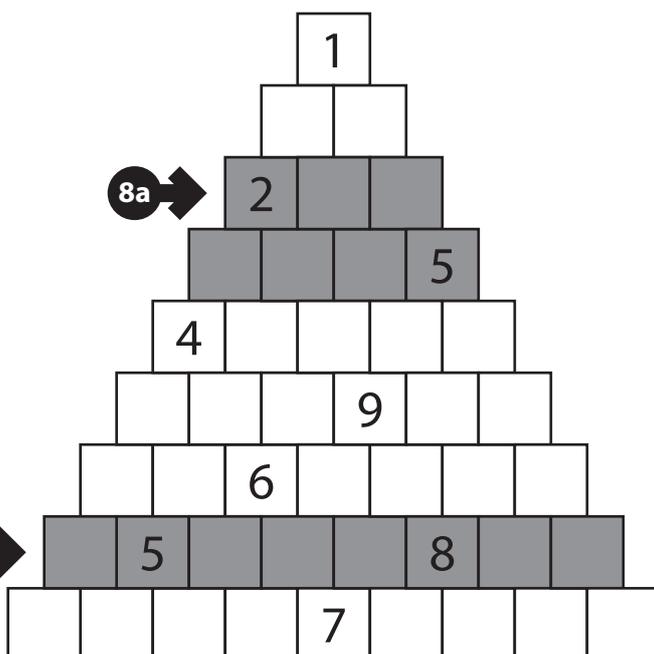
Answer: For each designated row, enter its contents.

Example Answer: 147, 724861



8a →

8b →



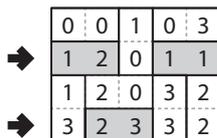


9. Domino Search (51 points) [Jakub Hrazdira]

Divide the grid into a full set of dominoes numbered from 0 to 6 (0 to 3 in the example). The orientation of the numbers do not matter. A full set of dominoes will be provided for your convenience.

Answer: For each designated row, enter all the digits in dominoes that are *only* in that row (that is, the horizontal dominoes), from left to right.

Example Answer: 1211, 23



	0	0	8	6	2	5	7	4	8	8
	1	1	2	0	4	5	0	5	7	7
9a →	2	2	6	4	1	7	8	6	6	6
	3	3	7	0	0	2	5	3	5	5
9b →	4	4	3	4	2	4	1	1	4	4
	5	5	5	2	4	8	8	5	3	3
9c →	6	6	1	6	7	8	3	6	2	2
	7	7	1	8	7	6	3	1	1	1
	8	8	2	0	7	0	3	3	0	0

0	0																
0	1	1	1														
0	2	1	2	2	2												
0	3	1	3	2	3	3	3										
0	4	1	4	2	4	3	4	4	4								
0	5	1	5	2	5	3	5	4	5	5	5						
0	6	1	6	2	6	3	6	4	6	5	6	6	6				
0	7	1	7	2	7	3	7	4	7	5	7	6	7	7	7		
0	8	1	8	2	8	3	8	4	8	5	8	6	8	7	8	8	8

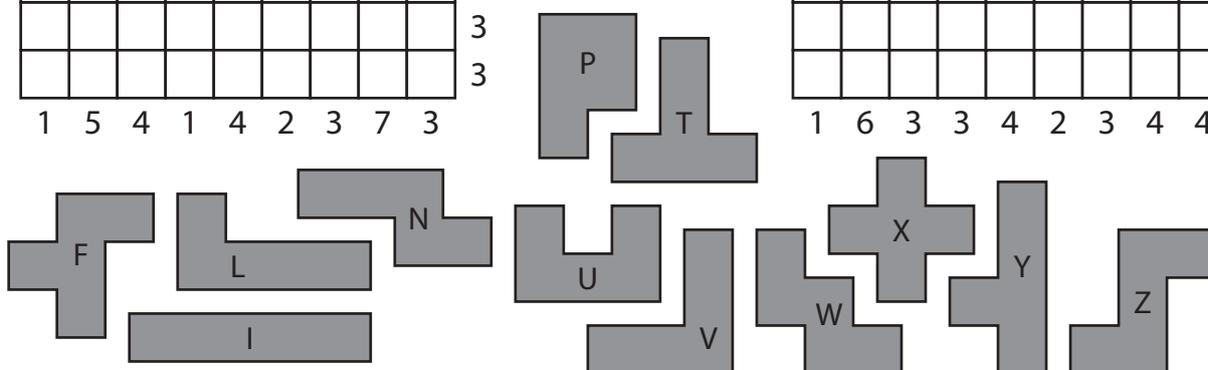
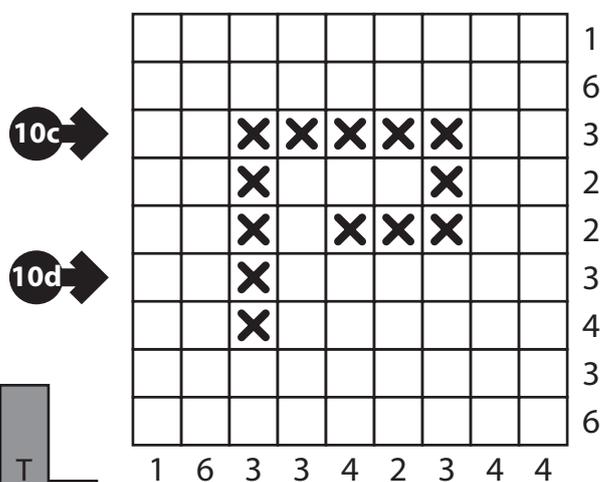
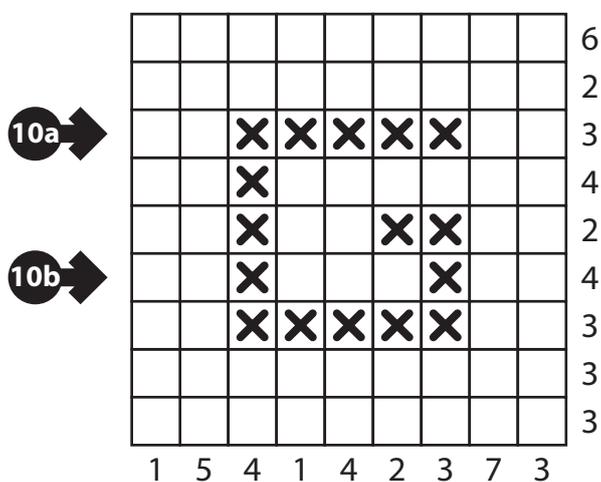
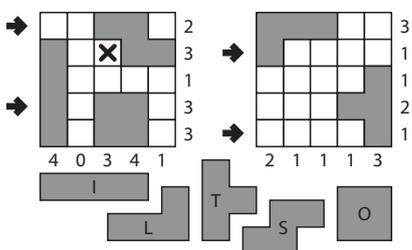


10. Pentominoes (75 points) [Jiří Hrdina]

Place the twelve pentominoes (tetrominoes in the example) into the *two* grids so that they do not touch each other, not even diagonally. (Each pentomino should appear in only one of the two grids.) Numbers below and to the right indicate the number of cells used by the pentominoes in the respective row and column. Pentominoes may be rotated and reflected. Cells marked with an X cannot be occupied with a pentomino.

Answer: For each designated row, enter the letter for each pentomino that appears in that row, from left to right. Within a row, if a pentomino occupies more than one cell, only enter that pentomino's letter once. If there are no pentominoes in that row, enter a single letter 'A'. (LITSO is used for the tetrominoes in the example; standard pentomino letters FILPNTUVWXYZ will be used for the competition puzzle.) Enter the rows in the left grid before the rows in the right grid.

Example Answer: S, IO, L, T



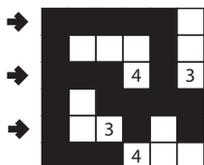


11. Nurikabe (28 points) [Jiří Hrdina]

Shade some cells black (leaving the other cells white) so that the grid is divided into regions; cells of the same color are considered in the same region if they are adjacent horizontally or vertically. Each given number must be in a white region that has the same area in cells as that number. Each white region must have exactly one given number. All black cells must be in the same region. No 2x2 group of cells can be entirely shaded black.

Answer: For each designated row, enter the length (number of cells) of the black segments from left to right. If there are no black cells in the row, enter a single digit '0'.

Example Answer: 5, 31, 111



11a →

			4				
		3				7	
					3		
		5					
			4				
							6

11b →

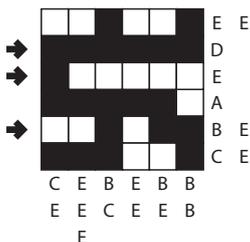
11c →

12. Coded Coral (32 points) [Jiří Hrdina]

Shade some cells black such that the blackened cells form a standard WPC-style "coral": All black cells are connected orthogonally, all other cells are connected orthogonally to the outer edges of the grid, and no 2x2 area is entirely blackened. "Numbers" below and to the right represent the lengths of segments of consecutively-blackened cells in that row or column, but in no particular order. The actual numbers have been substituted with letters such that the same letter always represents the same number and different letters represent different numbers. (Only numbers greater than 0 are used.)

Answer: For each designated row, enter the length (number of cells) of each segment of unblackened cells, from left to right. Use only the last digit for two digit numbers; e.g., use '0' for 10 consecutive unblackened cells. If all cells in a row are blackened, enter the single digit '0'.

Example Answer: 0, 5, 21



12a →

A D
A D
A D
B D
A D D
A
C C D
A C

12b →

12c →

A C C B D A A A
C D C D D C D
D D D D

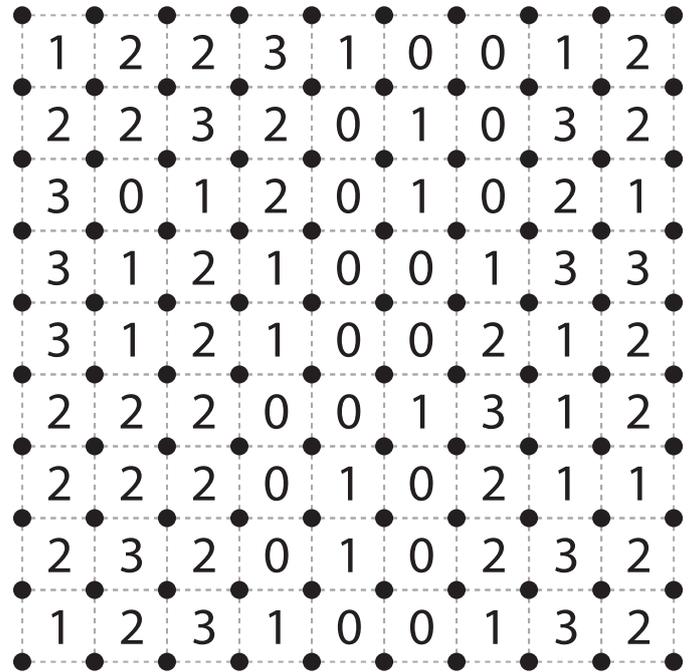
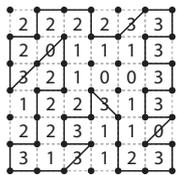


13. Liar Diagonal Slitherlink (79 points) [Jakub Hrazdira]

Draw a single, non-intersecting loop that only consists of horizontal, vertical, and diagonal segments between the dots. A number inside a cell either indicates how many of the edges of that cell are part of the loop, or the number is a "liar" and not only has an incorrect indication of how many of the edges of that cell are part of the loop, but also has a diagonal segment of the loop going through it. There is exactly one "liar" in each row and each column, and no other cells have diagonal segments going through them.

Answer: Enter the numbers inside each "liar" cell, from left to right. (Ignore which rows those cells are in.)

Example Answer: 303330



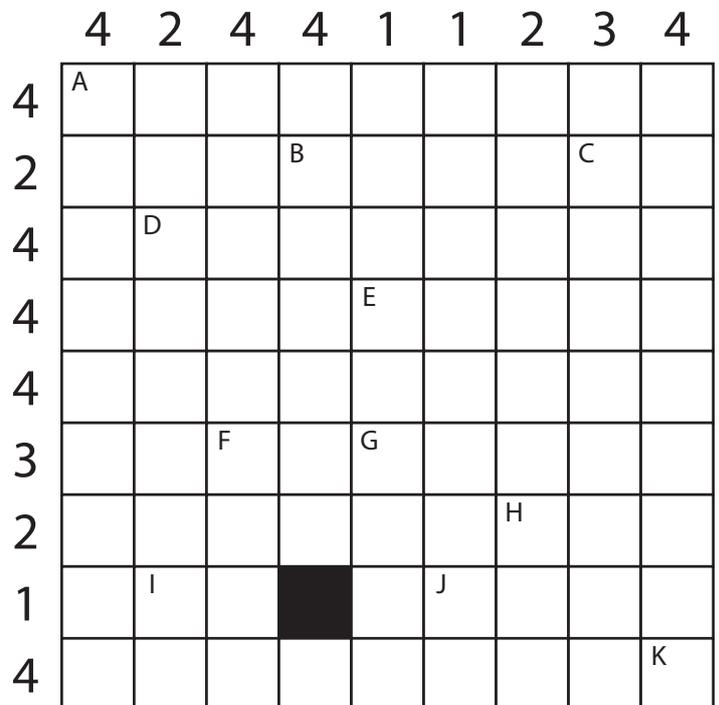
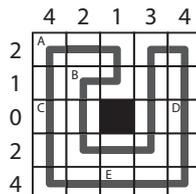
14. Maximal Lengths (24 points) [Jakub Hrazdira]

Draw a single continuous loop that goes through orthogonally adjacent cells. It must go through each white cell exactly once and not go through any black cells. Numbers above and to the left of the grid indicate the length of the longest straight part of the loop (from the center of the first cell to the center of the last cell) in that row or column. A zero indicates that that the loop does not travel along that row or column.

The letters in the diagram are for Answer purposes only.

Answer: Enter the letters in the order they appear on the loop, starting at the letter A and going to the right along the loop, until you return to the letter A. Enter each letter once.

Example Answer: ABDEC



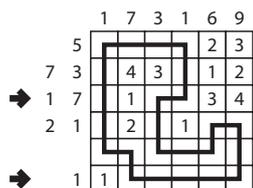


15. Japanese Sums and Loop (41 points) [Jiří Hrdina]

Place a digit from 1 to 6 (1 to 4 in the example) into some cells so that no digit appears more than once in each row or column. Cells may remain empty. Numbers outside the grid indicate the sums of continuous groups of digits (including "sums" of a single digit). These sums are given in the same order as their corresponding groups of digits. It must be possible to draw a loop that passes through all the empty cells that only consists of vertical and horizontal segments between cell centers and does not use any cell more than once.

Answer: For each designated row, enter its contents, using 'x' for an empty cell.

Example Answer: X1XX34, 1XXXXX



15a →

15b →

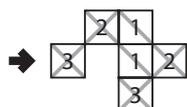
				2									
				5	7			5					
				1	3	2	16	1	2	10	9		
				6	10	3	1	6	6	8	9	7	5
9	3												
1	4												
9	2												
13	8												
3	6												
9	8												
2	9												
7	6	6											
6	4	1											
3	5												

16. Prime Place (69 points) [Jiří Hrdina]

Put a single number from 1 to 4 (1 to 3 in the example) into each cell. Each number must be used exactly four times (two times in the example). The sum of each group of horizontally or vertically adjacent cells must be a prime number. The diagonal lines indicate (the set of) all diagonal groups that satisfy the same rule.

Answer: For each designated row, enter its contents. Skip over any empty spaces that are not part of the grid.

Example Answer: 312



16b →

16c →