



Instruction Booklet

“Around the World in 80 Puzzles”

(WPC Rounds 4-7)

“Around the World in 80 Puzzles” is a set of individual rounds of assorted puzzles within World Puzzle Championship 2013 where the puzzles are provided by an international team of authors.

Round	Puzzle Authors
04 Dutch Delight	Bram de Laat, Hans Eendebak, Tim Peeters, Richard Stolk
05 Indian Intrigue	Prasanna Seshadri, Amit Sowani
06 Doubled Decathlon	Thomas Snyder, Wei-Hwa Huang, Palmer Mebane
07 Serbian Snacks	Nikola Zivanovic, Branko Ceranic, Cedomir Milanovic, Zoran Tanasic

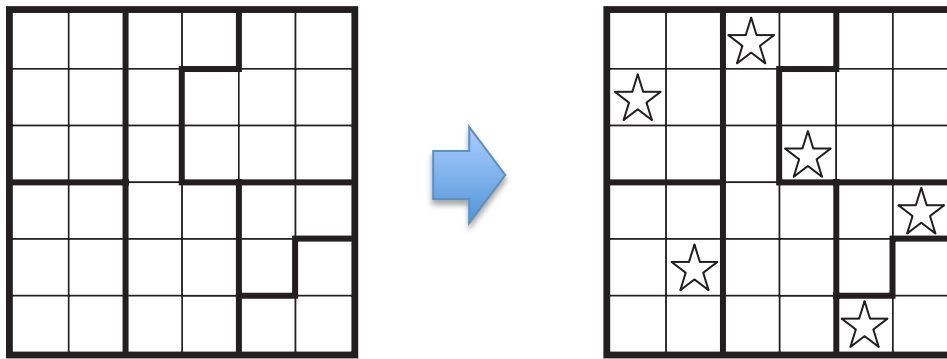
The indicated scores within this booklet are subject to the normalisation process that was described and communicated in a blog entry earlier. This communication is available, along with the general introduction and further details about “Around the World in 80 Puzzles”, at the address below:

<http://wpc-2013.blogspot.com>

PART 4	Around the world in 80 puzzles Dutch Delight	
Individual round	60 minutes	120 points*

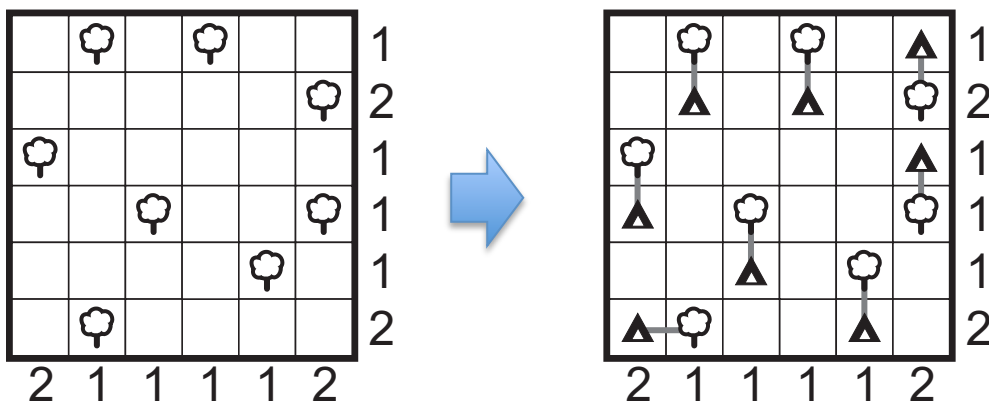
Puzzle 1 – Star Battle (2 points)

Place stars into some of the cells such that cells containing stars do not touch each other, not even diagonally. There are two stars in each row, column and region (one in the example).



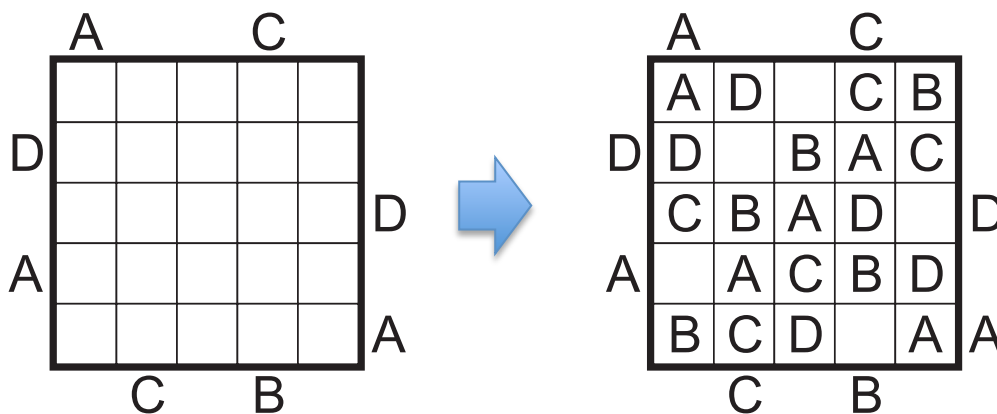
Puzzle 2 – Tents and trees (4 points)

Attach a tent to each tree, in a horizontally or vertically adjacent cell, so that cells with tents do not touch each other, not even diagonally. Numbers outside the grid indicate the number of tents in that row/column.



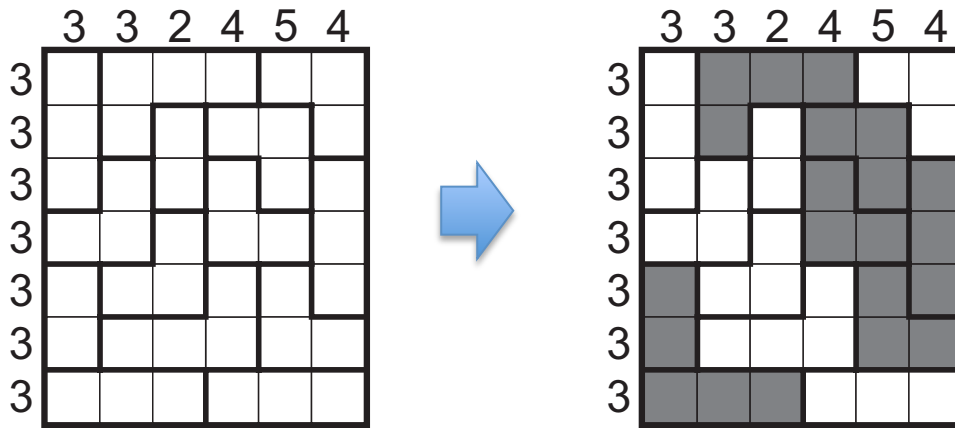
Puzzle 3 – Easy as ABCDE (3 points)

Fill in the grid with letters ABCDE (ABCDE in the example) so that each row and column contains each letter exactly once. Some cells remain empty. Letters outside the grid indicate the first letter in that row/column from that direction.



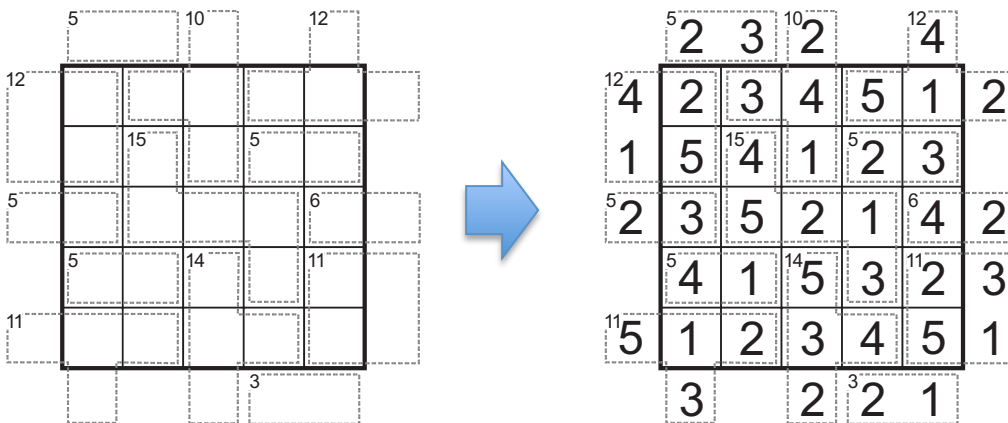
Puzzle 4 – Crazy Pavement (4 points)

Paint some cells in the grid so that for each region either all its cells are painted or none at all. Numbers outside the grid indicate the number of painted cells in that row/column.



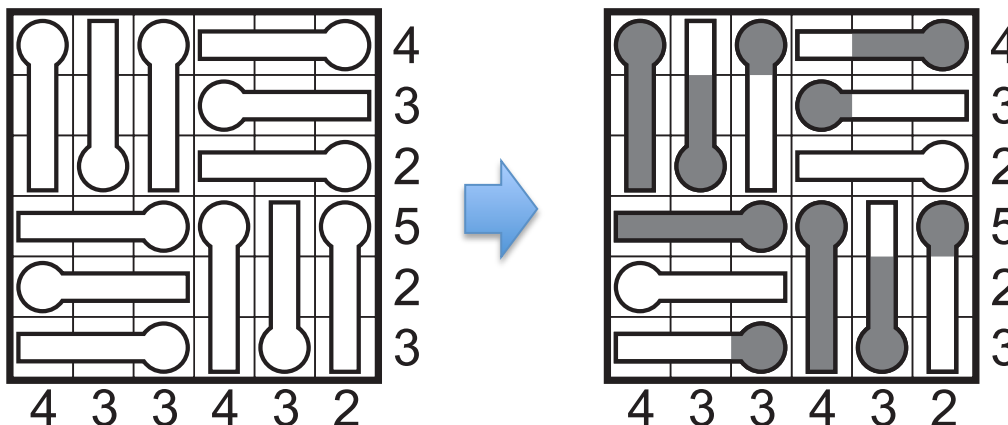
Puzzle 5 – Killer Skyscrapers (4 points)

Enter a digit from 1 to 6 into each cell (1–5 in the example) so that each row and column contains each number exactly once. Each digit in the grid represents the height of a building and the clues on the outside of the grid indicate how many buildings can be "seen" when looking from that direction. Taller buildings block smaller ones from being seen. Numbers in the top left corner of a region indicate the sum of numbers inside that region. No digit can be repeated within a region, even if some or all of them are outside the grid.



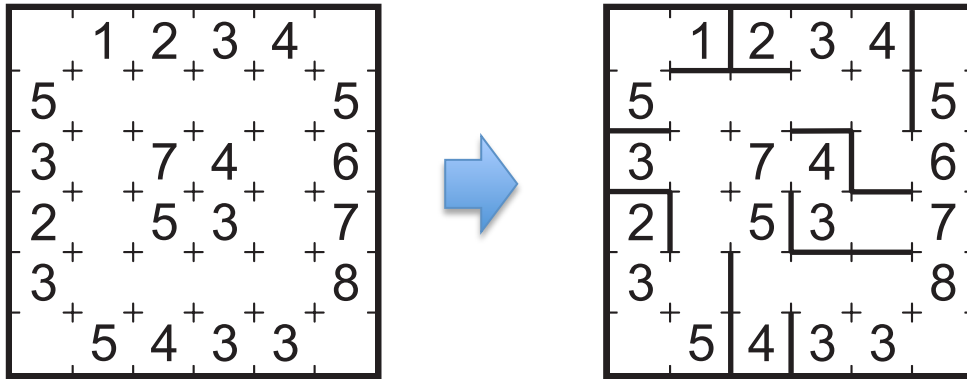
Puzzle 6 – Thermometers (3 points)

Fill in all, some or none of each thermometer so that numbers outside the grid indicate how many cells are filled in that row/column. Each thermometer is filled from the bulb upwards, it is not allowed to have empty cells between two filled cells in any thermometer.



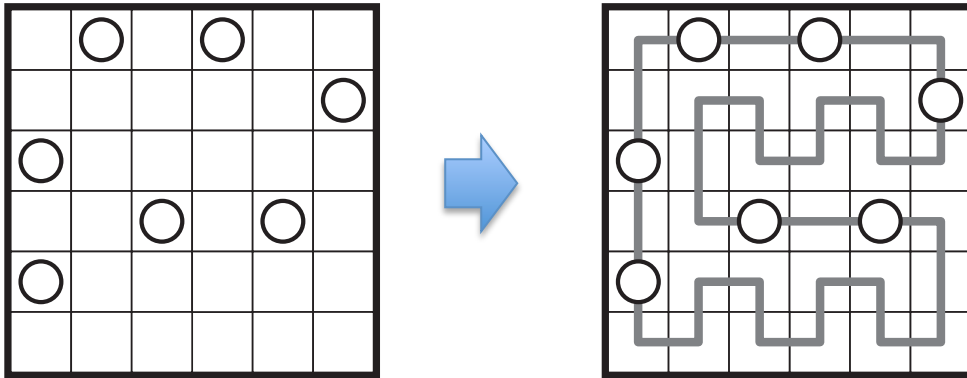
Puzzle 7 – Office (4 points)

Place some wall segments along the grid lines so that each number indicates how many other cells can be seen from that cell, not including itself. Wall segments block visibility. There is a connectivity rule: the entire office area must remain connected.



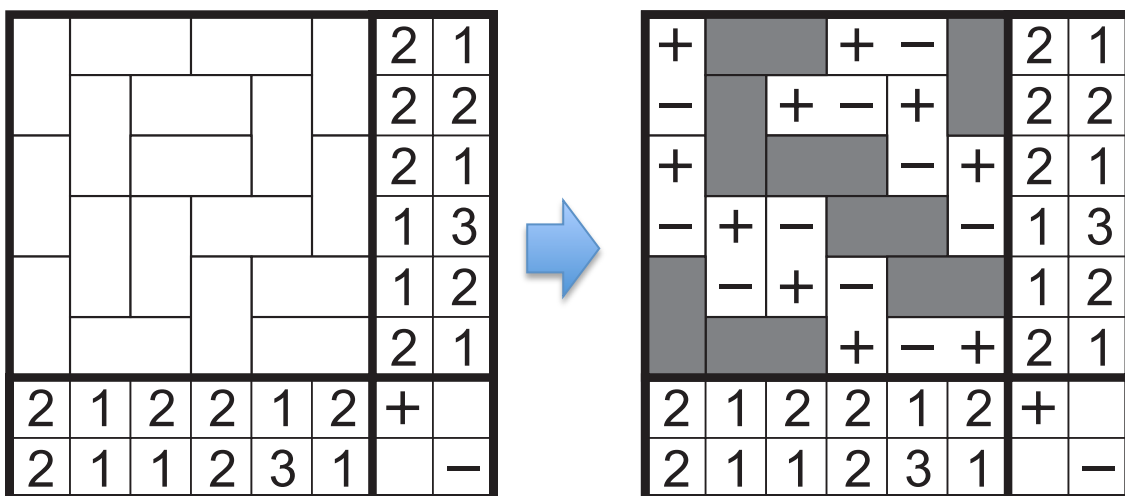
Puzzle 8 – Every Second Straight (4 points)

Draw a single closed loop that consists of horizontal and vertical segments and visits every cell exactly once. Along the loop, every second cell where the loop makes no turn is marked with a circle.



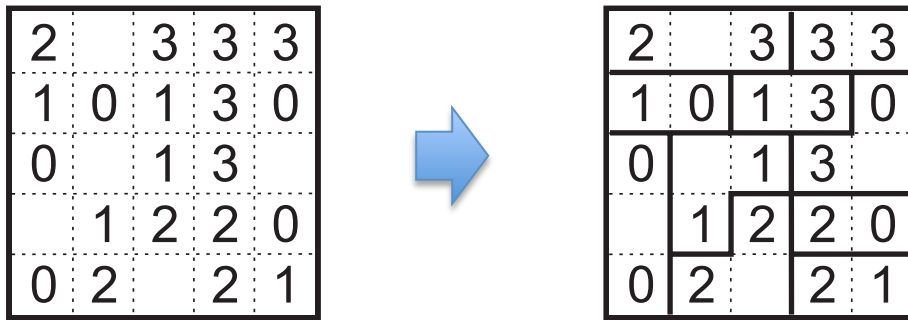
Puzzle 9 – Magnets (6 points)

Place magnets into some of the regions so that each magnet has a positive and a negative pole. Cells containing magnet halves of the same polarity cannot share an edge. Numbers outside the grid indicate the number of positive and negative poles in the rows/columns.



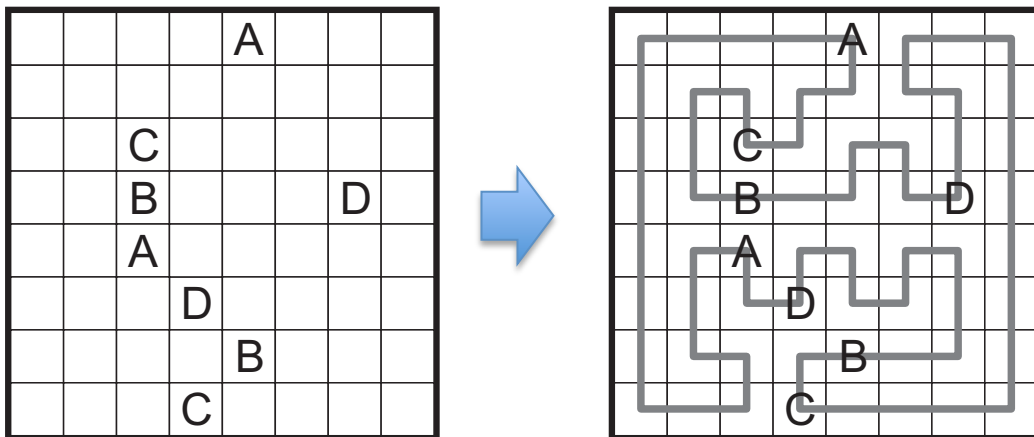
Puzzle 10 – Domino Extra (5 points)

Divide the grid into a number of regions so that every pair of numbers appears in exactly one region. All regions contain exactly two numbers.



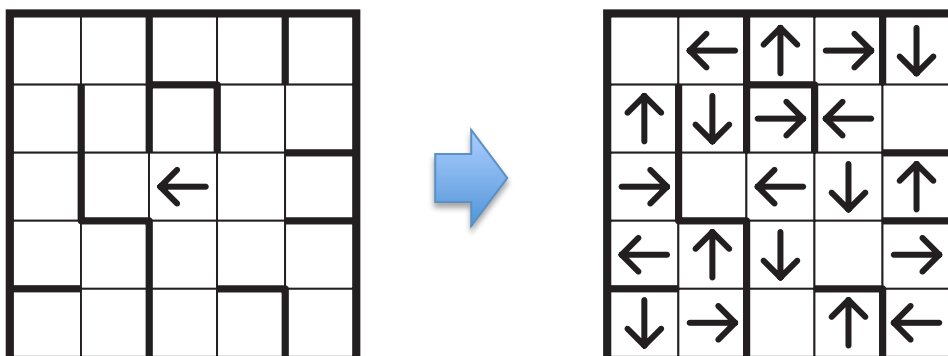
Puzzle 11 – Gemini Loop (5 points)

Draw a single closed loop that consists of horizontal and vertical segments and visits every cell exactly once. Cells with identical letters contain identical loop segments, cells with different letters have different loop segments. The direction of the loop is not considered, in other words the loop may go through cells with identical letters from left to right the first time and from right to left another time.



Puzzle 12 – Blind Spot (7 points)

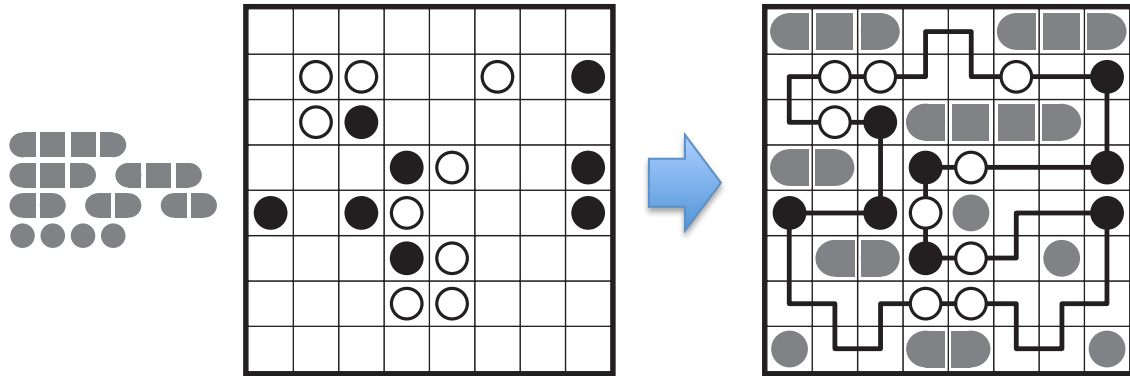
Place an arrow into some of the cells so that there are exactly four arrows, one arrow for each of the four directions, in every row and column. Some cells remain empty. No arrow can point at another arrow. Thick walls block visibility.



Puzzle 13 – Masyu Battleships (7 points)

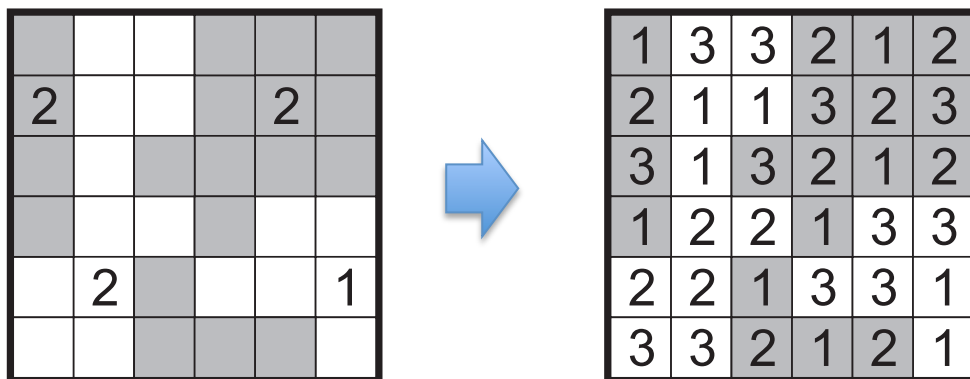
Masyu rules apply: draw a single, non-intersecting loop that passes through all circled cells but not necessarily through all empty cells. The loop must go straight through the cells with white circles, with a turn in at least one of the cells immediately before/after each white circle. The loop must make a turn in all the black circles, but must go straight in both cells immediately before/after each black circle.

Additionally, place the given battleship fleet into the cells that are not occupied by the loop so that ships do not touch each other, not even diagonally.



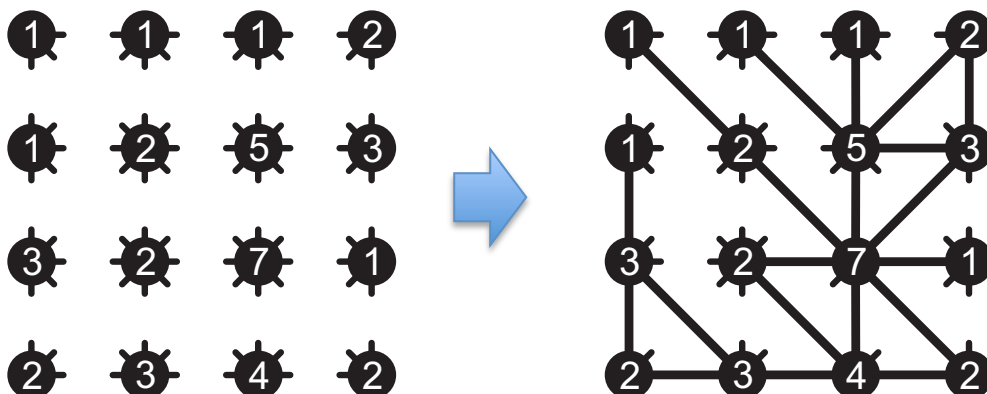
Puzzle 14 – Neighbours (8 points)

Place digits 1–3 in the grid so that in each row and column, each digit appears three times (only twice in the example). Numbers in grey cells do not share an edge with a cell containing the same number. Numbers in white cells share an edge with at least one cell containing the same number. Cells that are not painted grey should be considered as white.



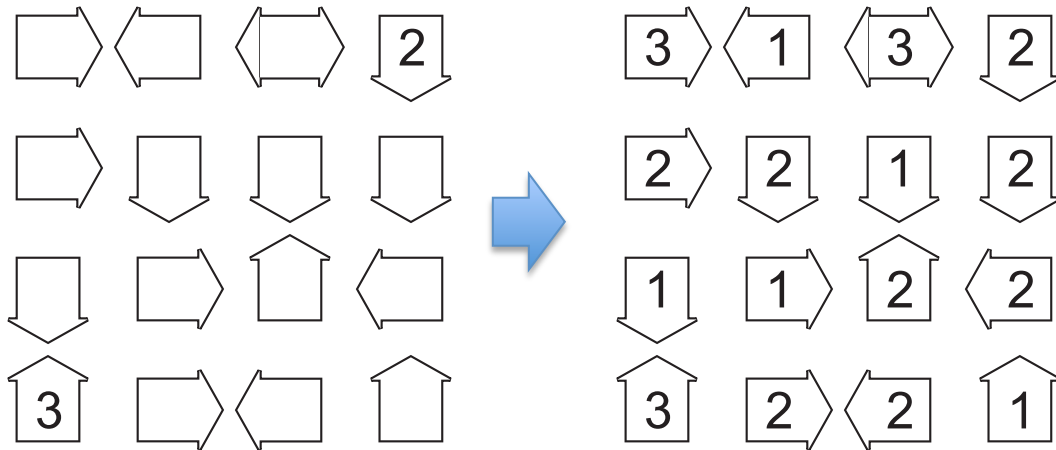
Puzzle 15 – Spokes (8 points)

Draw some spokes into the grid to ensure that all nodes are eventually connected. Spokes can go in any of the eight directions (horizontally, vertically or diagonally) but cannot cross each other. Digits in a node indicate the number of spokes starting from that node.



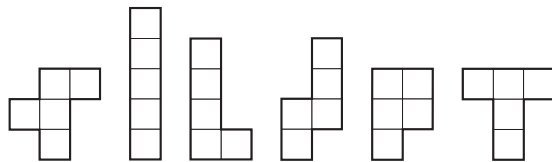
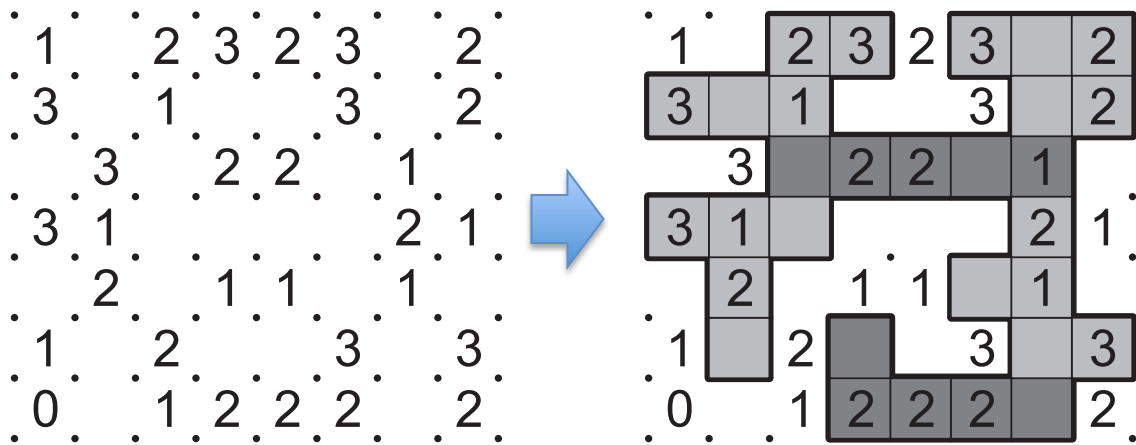
Puzzle 16 – Numbered Arrows (8 points)

Place a number into the arrows so that each number indicates how many different digits its arrow is pointing at.



Puzzle 17 – Pento Fences (8 points)

Draw a single closed loop into the grid so that it does not touch or cross itself. A number in a cell indicates the number of sides of that cell occupied by the loop. Then divide the interior of the loop into the given twelve pentomino shapes (six in the example). Each cell inside the loop must be covered by exactly one pentomino. Adjacent pentominos touch each other at exactly one border segment. There is no single point where three or more pentominos meet. Pentominos may be rotated and/or reflected.



Puzzle 18 – Blackout Domino (8 points)

Paint some cells black so that black cells do not share an edge with the outside border or with each other. Then place all the given domino tiles, each exactly once, into the grid so that the tiles do not overlap. If two domino tiles share an edge, their touching halves must contain the same number.

Domino tiles available:

0:0	1:1	2:2	3:3	4:4
0:1	1:2	2:3	3:4	
0:2	1:3	2:4		
0:3	1:4			
0:4				

Puzzle 19 – Japanese Sums (10 points)

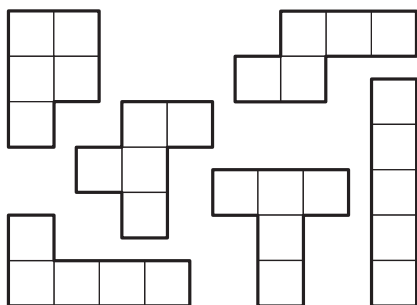
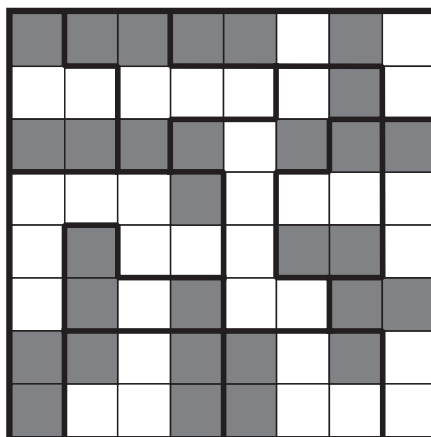
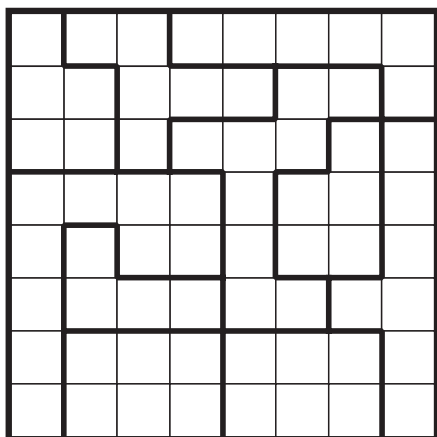
Place digits 1–9 into the grid so that no digit is repeated within a row or column. Numbers outside the grid indicate the sums of contiguous blocks of digits in that row or column. Blocks have to be separated by at least one empty square.

Row and Column Sums:

1	11						
12	22						
14	4						
5	15						
6	16						
13	3						

Puzzle 20 – Pentomino in the Box (12 points)

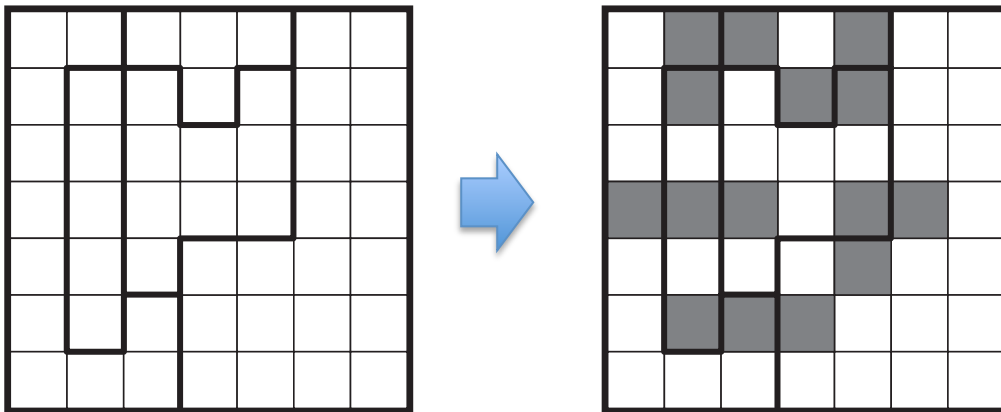
Place the given set of pentominoes into the grid, each of them exactly once, so that they do not touch each other, not even diagonally. Pentominoes may be rotated and/or reflected. Every region contains exactly three cells that are occupied by a pentomino and those three cells belong to two different pentominoes. (Note: the two cells that belong to the same pentomino within a region do not have to share an edge).



PART 5	Around the world in 80 puzzles Indian Intrigue	
Individual round	60 minutes	120 points*

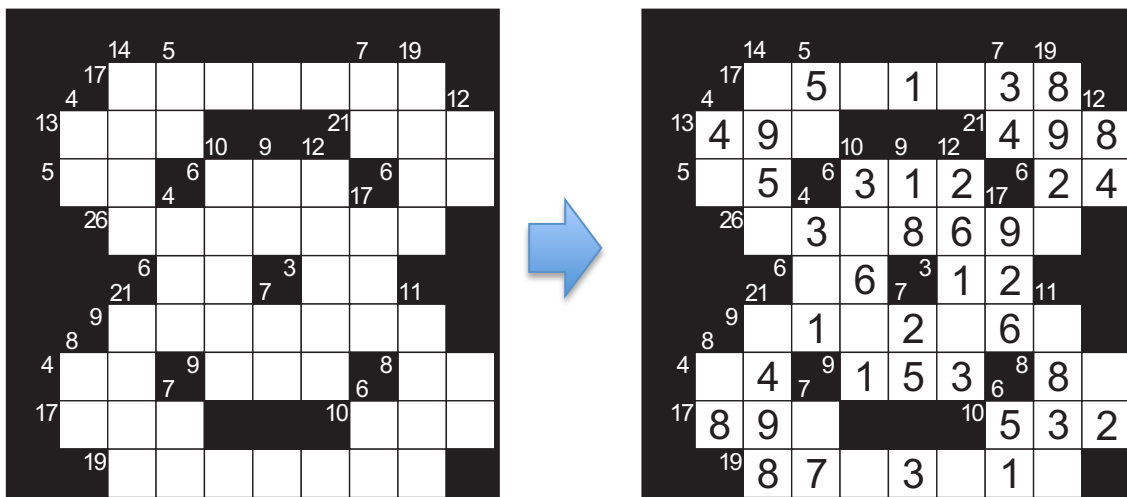
Puzzle 1 – Trio Cut (4 points)

Paint some cells to obtain triminos consisting of three edge-connected cells. Triminos can touch each other diagonally but cannot share an edge. Each trimino is cut twice by thick lines and each region contains exactly three trimino cells.



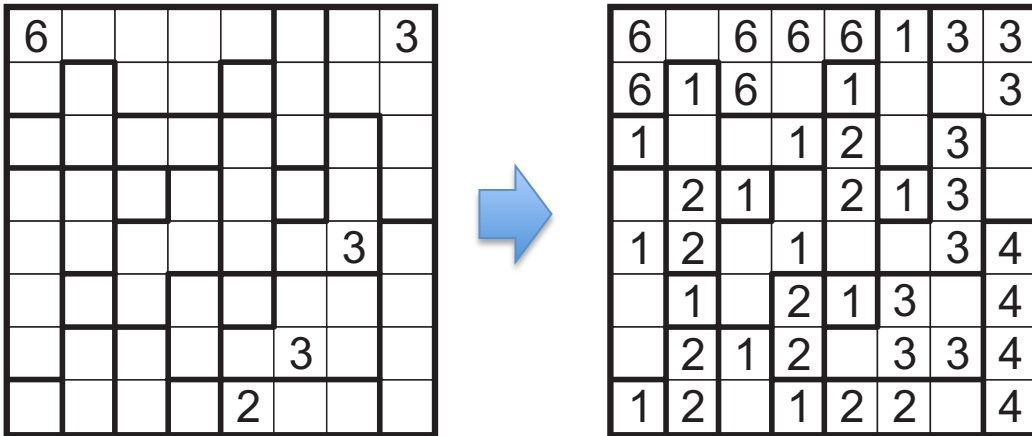
Puzzle 2 – Gapped Kakuro (11 points)

Fill in some of the cells with digits 1–9 so that no digit repeats in any of the “words” across and down. Clues denote the sum of digits in each of the words. Some cells will remain empty but these empty cells cannot share an edge.



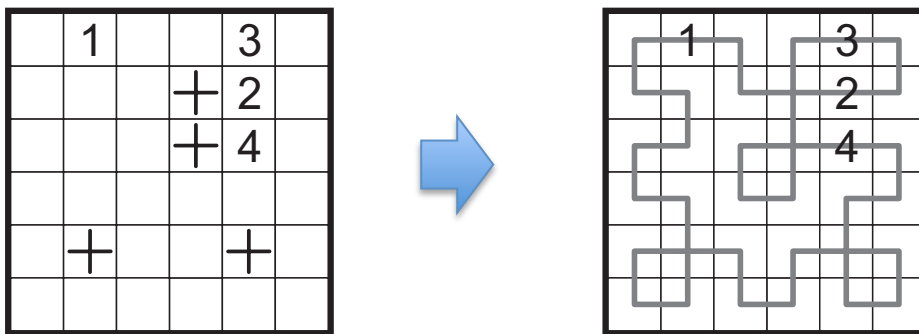
Puzzle 3 – Nanro (5 points)

Place numbers into some of the cells so that no 2x2 area is completely covered by numbers. All numbers in a region must equal to the number of numbers in that region. If two edge-adjacent cells are in different regions, they cannot contain the same number. Finally, the set of all cells containing numbers must occupy a single connected area.



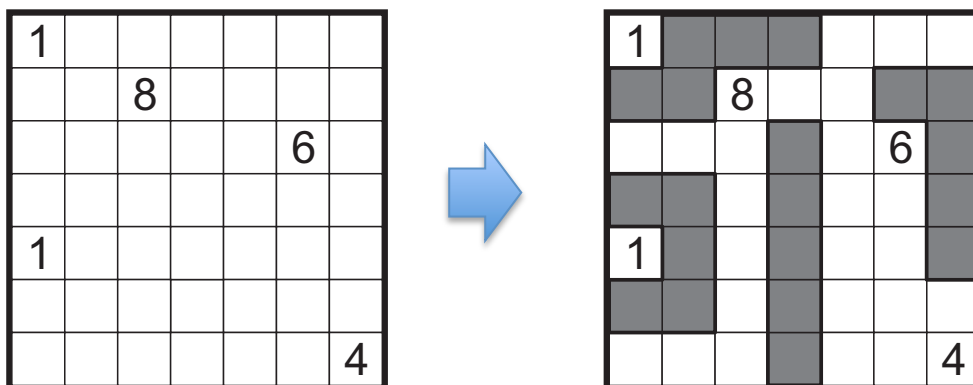
Puzzle 4 – Railroads / Bahnhöfe (3 points)

Draw a single closed loop that consists of horizontal and vertical segments and visits all cells with a “+” sign exactly twice, crossing itself, and visits all other cells exactly once. The loop makes no turn in cells with numbers and has to visit all such cells in an increasing order 1-2-3-... with the last station followed by 1 again.



Puzzle 5 – PentaSight (5 points)

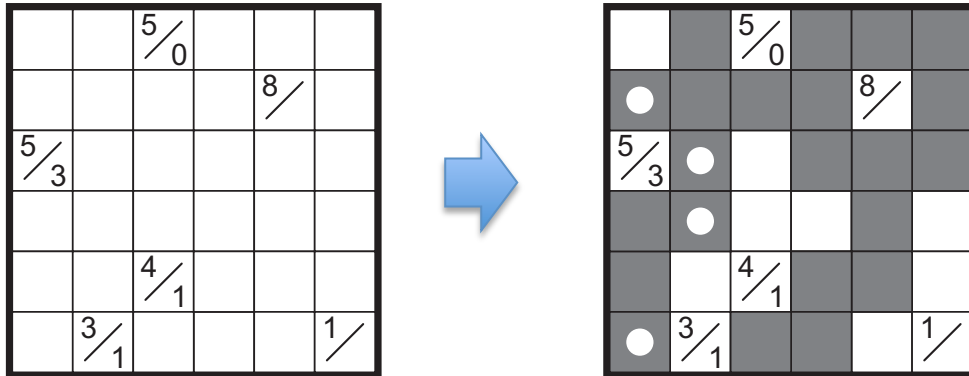
Place some pentomino pieces into the grid, each of them at most once. Rotations and reflections are considered the same piece. Pentomino pieces cannot touch each other, not even diagonally. Numbers in the grid indicate the total number of white cells that can be seen from the number’s cell horizontally and vertically, including its own cell. Pentomino pieces block the visibility of cells beyond them.



Puzzle 6 – Dotted Wall (10 points)

Paint some cells to obtain a contiguous wall that may touch itself diagonally but cannot cover any 2x2 area. Then consider the cells covered by the wall enumerated from left to right, then top to bottom: given this order, place a dot onto every N^{th} cell. It is part of the puzzle to figure out the value of N (in the sample puzzle, we have $N = 5$). Note that the wall counter does not have to end at a multiple of N .

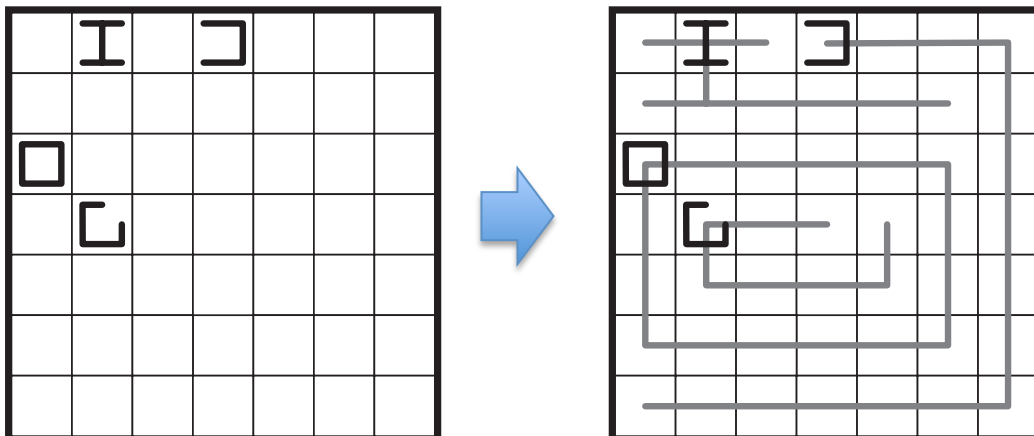
Clue cells are halved, they contain one or two numbers. A number in the top half of a clue cell indicates the number of wall cells around that clue cell (up to 8). A number in the bottom half of a clue cell indicates the number of dots around it. An empty half of a clue cell does not provide any information.



Puzzle 7 – Curve Data (3 points)

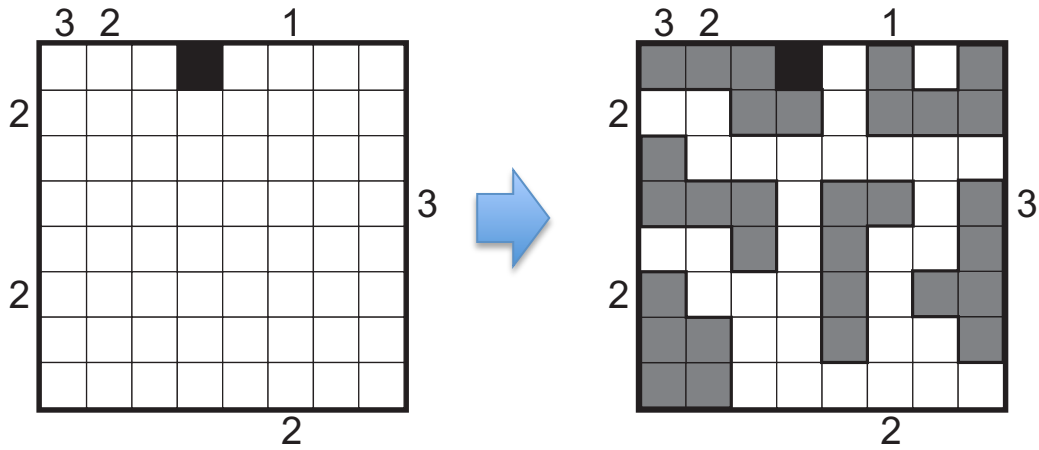
Draw some shapes into the grid so that each of them goes through exactly one of the provided clue shapes. Every cell is occupied by exactly one of these shapes. Each clue indicates the structure of its containing shape, in terms of number of segments and how they are turning, branching or connecting, without any rotation or reflection.

However, clues do not imply actual or relative lengths of any segments of the shape, except that no segment can be of length zero.



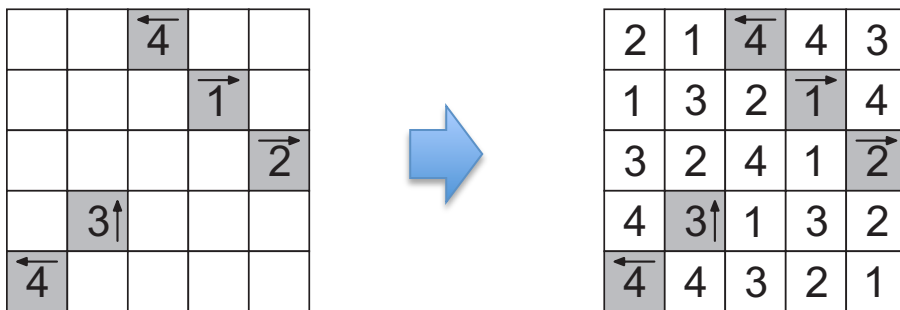
Puzzle 8 – Skyscraper Pentomino (8 points)

Place all twelve pentominoes into the grid, they can be rotated and/or reflected but they cannot touch each other, not even diagonally. No pentomino can be placed onto black cells. For any row/column, a contiguous segment of N cells containing pentomino parts is considered to be a building of height N. Numbers outside the grid indicate the number of segments that are visible from that direction given that height definition. Buildings (segments) of length N block visibility of all other buildings (segments) of length N or below that are behind them.



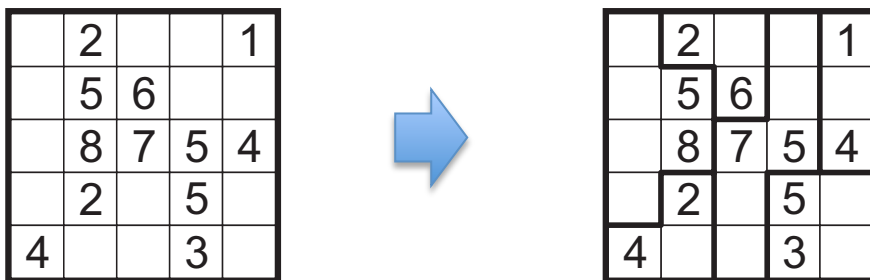
Puzzle 9 – Toroidal Skyscrapers (4 points)

Enter a digit from 1 to 5 (1 to 4 in the example) into each cell so that each row and column contains each number exactly once. Each digit in the grid represents the height of a building. Clues with arrows inside the grid indicate how many buildings can be "seen" when looking from that direction. The grid is considered to be "toroidal", i.e. the rows and columns are wrapped around and visibility is assumed. Taller buildings block smaller ones from being seen.



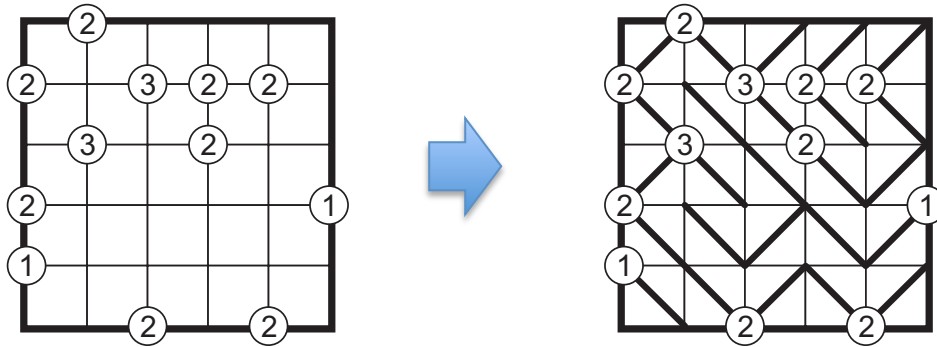
Puzzle 10 – Araf (4 points)

Divide the grid into connected regions so that each of these regions contains exactly two numbers. The area of a region should be strictly between the two values given by the two numbers in that region.



Puzzle 11 – Slalom (7 points)

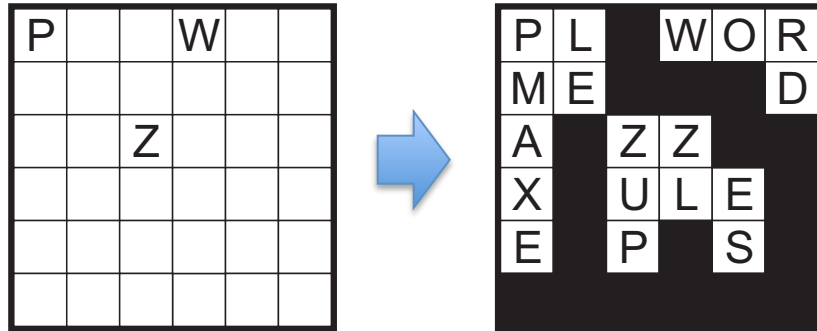
Draw one of the diagonals of each cell so that numbers in each node denote the number of line segments attached to that node. The diagonals do not form a closed loop anywhere in the grid.



Puzzle 12 – Word Nurikabe (5 points)

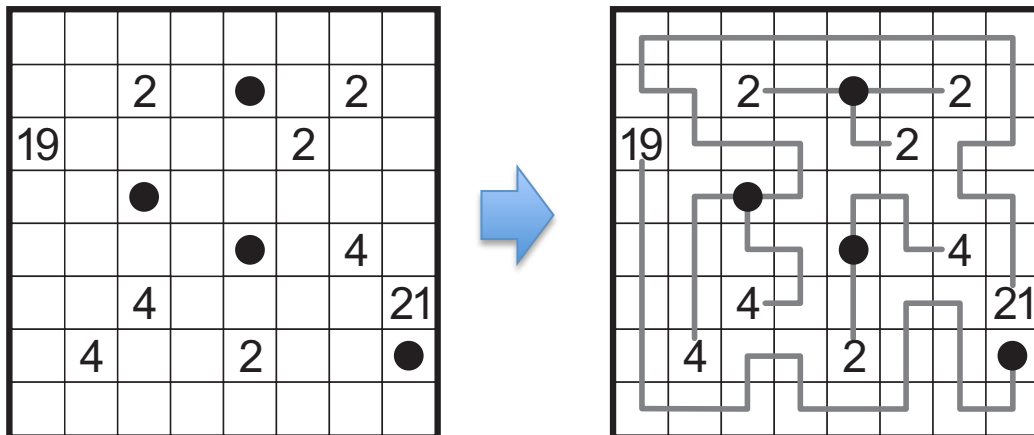
Place the given words into the grid so that they are readable in horizontally and vertically consecutive cells. Different words do not touch each other by side but they can touch diagonally. The remaining cells form a single connected shape that cannot have any 2x2 area anywhere. One letter from each word is given.

WORD
PUZZLES
EXAMPLE



Puzzle 13 – Pipes (3 points)

Draw a path of horizontal and vertical segments from each number to a circle which has a total length equal to the number. Each cell must be used by exactly one path, and a path may not use a cell twice. It is possible for multiple numbers to be attached to a circle. All circles are used.



Puzzle 14 – Hidden Words (7 points)

Place all the given words into the grid so that each of them can be read across or down. Words cannot touch each other, not even diagonally. Letters outside the grid indicate that the letter appears in that row/column at least once.

USE
THIS
AS
A
SAMPLE

	S		U	S		A
H						
M						

	S		U	S		A
H	T	H	I	S		S
M	S	A	M	P	L	E
	A		U	S		E

Puzzle 15 – Transparent Tapa (7 points)

Paint some cells to create a single contiguous wall that does not have any 2 x 2 area in it. Clues in a cell indicate the sizes of connected blocks within the neighbourhood of the cell, including the cell itself (up to 9 cells). A block of cells has to be connected within the neighbourhood of the cell.

		1 4			
		1			
				6	
4		3			
1			5 6		
2					

		1 4			
		1			
				6	
4		3			
1			5 6		
2					

Puzzle 16 – Liar Fillomino (12 points)

Divide the grid into regions along the grid lines so that no two regions of identical size share an edge (but may touch at a single point). It is possible for a region to contain one or multiple numbers or none at all. All the given numbers are supposed to be equal to the area of the region they are in.

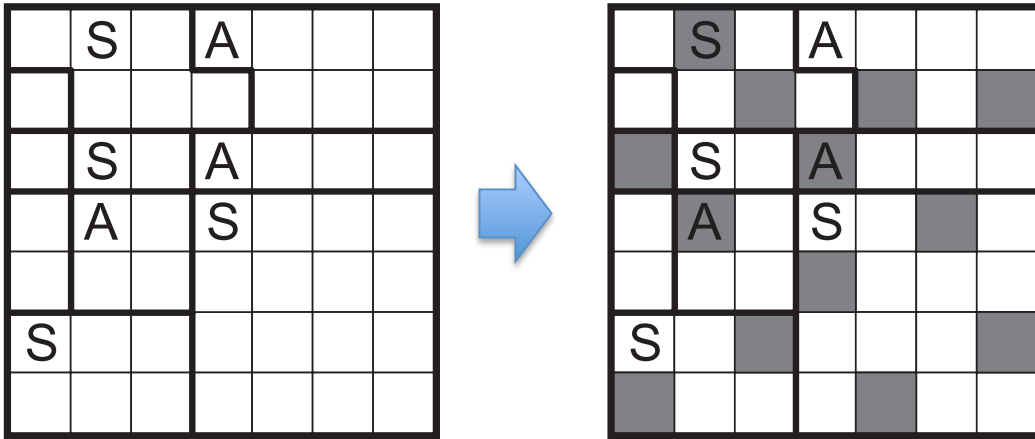
However, in each row and each column, exactly one of the clues is wrong.

9	6			2	3
					4
3	4	6			
			9	1	3
2					
3	2			1	1

9	6			2	3
					4
3	4	6			
			9	1	3
2					
3	2			1	1

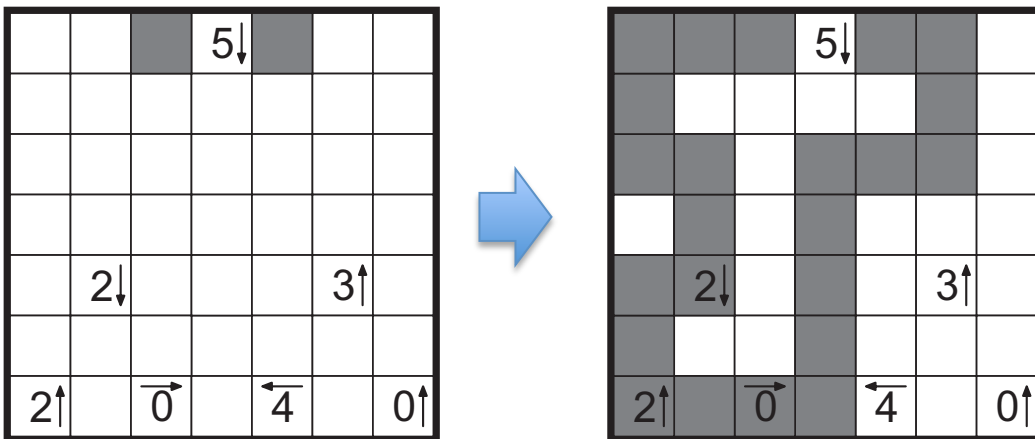
Puzzle 17 – Heyawacky (Symmetry) (7 points)

Paint some of the grid cells so that no two painted cells share an edge and all unpainted cells are connected. A string of horizontally or vertically consecutive unpainted cells can never cross two region boundaries (even if the string exits and then re-enters the same room). A region with an S inside it must have 180 degrees rotational symmetry, whereas a region with an A inside it cannot have 180 degrees rotational symmetry. A region is considered to have symmetry if and only if both its shape and the location of its painted cells, if any, are symmetric.



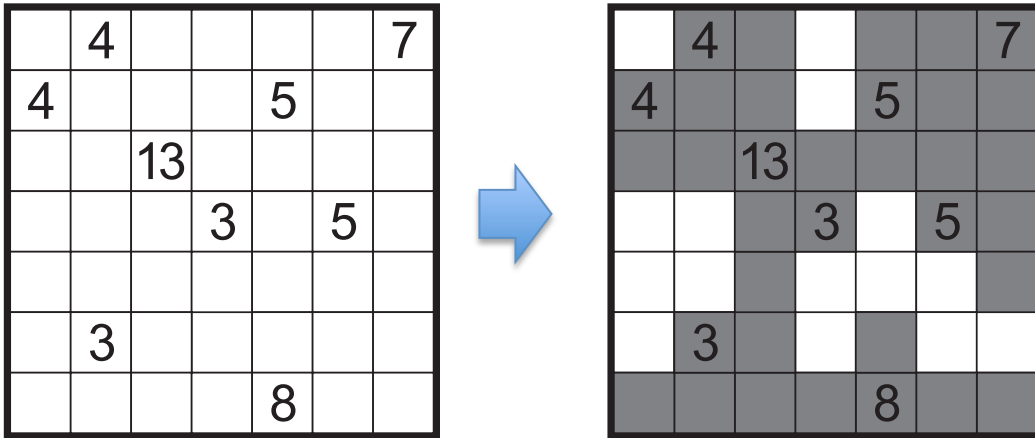
Puzzle 18 – True-False Snake (7 points)

Find a snake in the grid whose head and tail are given but its length is unknown. The snake cannot touch itself, not even diagonally. Numbers indicate the number of cells occupied by the snake that are pointed at by their arrow. The snake is allowed to occupy cells with clues. Clues that are occupied by the snake are all false, while the other clues are all true.



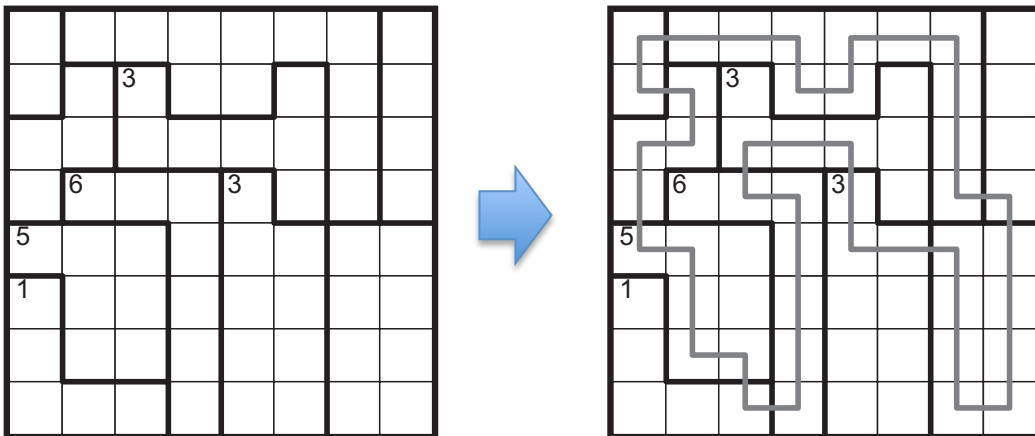
Puzzle 19 – Cave (3 points)

Select a connected set of squares (a cave) so that it contains all the numbers inside and each number reveals the number of cells that are visible horizontally or vertically from the given number's cell (which is included). The cave cannot touch itself, not even diagonally – in other words, it cannot have an island inside. It is allowed for the cave or the walls to have 2 x 2 areas.



Puzzle 20 – Country Road (5 points)

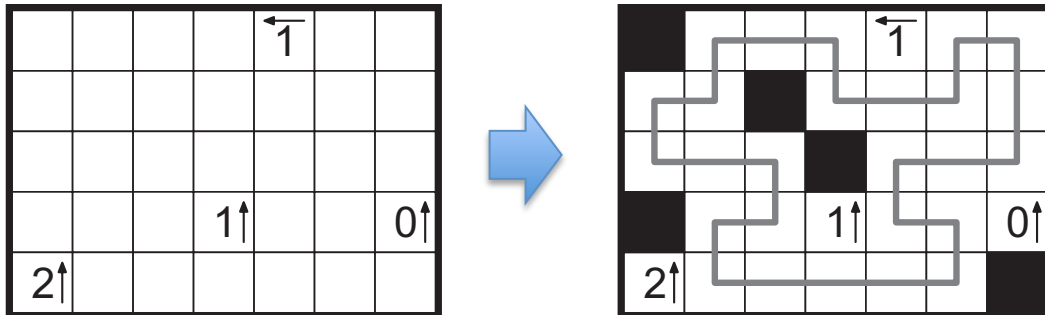
Draw a single closed loop into the grid that is made of horizontal and vertical segments through cell centres. The loop enters and exits each of the regions exactly once. A number in a region indicates the number of cells visited by the loop in that region. For any edge-adjacent pair of cells separated by region boundaries, at least one of them is visited by the loop (this does not apply to the outer boundary of the puzzle).



PART 6	Around the world in 80 puzzles Doubled Decathlon	
Individual round	60 minutes	120 points*

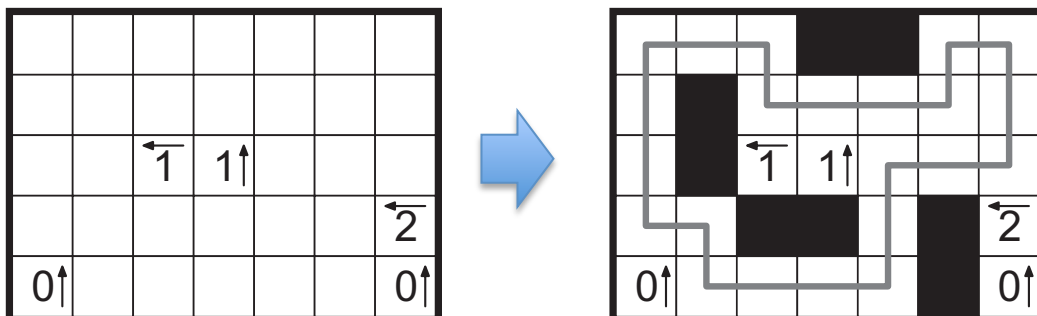
Puzzle 1 – Yajilin (6 points)

Shade some white cells black so that each number indicates how many blackened cells are in the indicated direction. Black cells cannot share an edge. The remaining white cells must all be connected to form a single closed loop without intersecting or overlapping with itself.



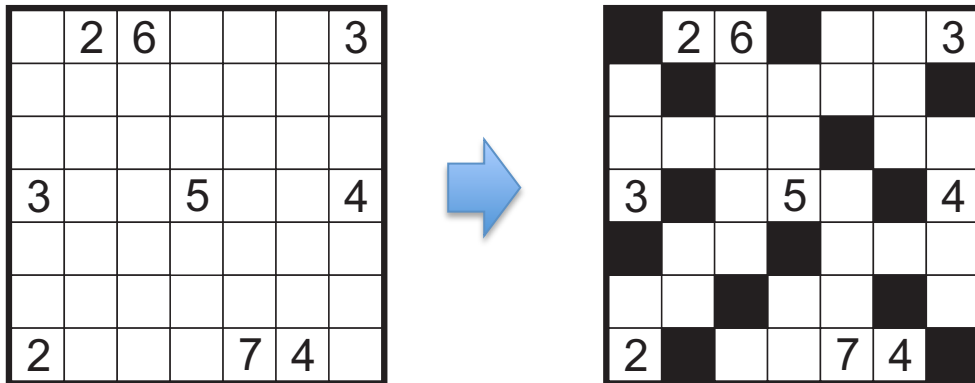
Puzzle 2 – Doubled Yajilin (3 points)

Standard Yajilin Rules except that instead of single black cells, shade in dominoes (1 x 2 black cell groups). Dominoes cannot share an edge. The numbers in the grid indicate how many dominoes (not how many cells) are pointed at in the indicated direction.



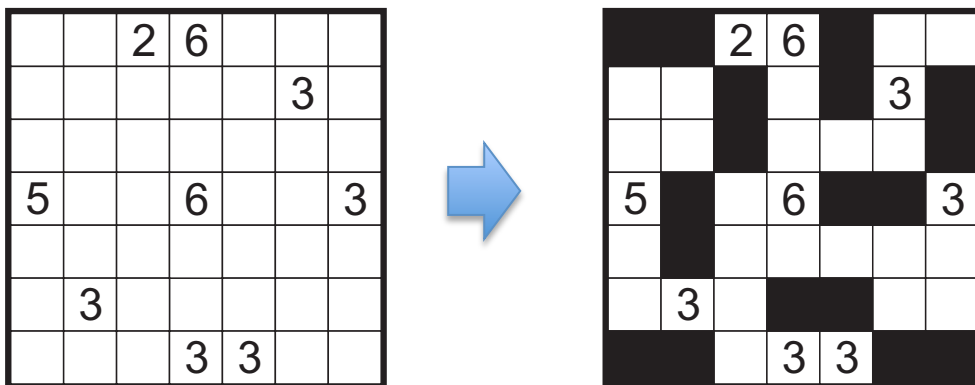
Puzzle 3 – Kuromasu (4 points)

Shade some white cells black so that each number indicates the total count of white cells connected vertically and horizontally to that number's cell including the numbered cell itself. Black cells cannot share an edge, and all white cells must belong to a single connected group.



Puzzle 4 – Doubled Kuromasu (8 points)

Standard Kuromasu rules except that instead of single black cells, shade in dominoes (1 x 2 black cell groups). Dominoes cannot share an edge.



Puzzle 5 – Battleships (3 points)

Locate the indicated fleet of ships in the grid. Each segment of a ship occupies a single cell, and the numbers on the right and bottom edges of the grid reveal the number of ship segments in that row or column. Ships can be rotated. Ships do not touch each other, not even diagonally. Some ship segments, or sea cells without any ship segments, are given in the grid.

The puzzle consists of a 6x6 grid with clues on the right and bottom. The right-side clues are 2, 1, 2, 1, 3, 1. The bottom-side clues are 2, 1, 2, 1, 3, 1. A blue arrow points from the empty grid to the solved grid. The solved grid contains the following ship segments: a 2x1 ship at (1,4)-(2,4), a 2x1 ship at (2,5)-(3,5), a 1x1 ship at (3,2), a 1x1 ship at (3,3), a 2x1 ship at (3,4)-(3,5), a 1x1 ship at (4,1), a 1x1 ship at (4,3), a 3x1 ship at (5,2)-(5,4), a 1x1 ship at (6,1), and a 1x1 ship at (6,5). Below the grid are the ship pieces: a 2x1 ship, a 3x1 ship, and three 1x1 ships.

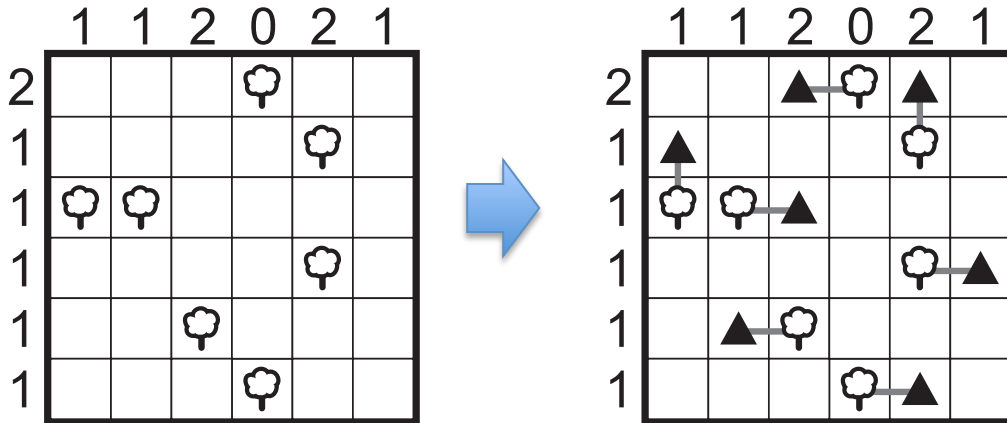
Puzzle 6 – Doubled Battleships (9 points)

Standard Battleship Rules except that instead of one fleet, there are two fleets (one white and one black). Ships from the same fleet cannot touch each other, even diagonally; ships from different fleets are allowed to touch but cannot overlap on any square. Clues for the white fleet are on the left and top edges of the grid; clues for the black fleet are on the right and bottom.

The puzzle consists of a 6x6 grid with clues on the top and left edges for the white fleet, and clues on the right and bottom edges for the black fleet. The top clues are 3, 1, 1, 2, 2, 1. The left clues are 3, 1, 2, 1, 2, 1. The right clues are 3, 2, 1, 2, 1, 1. The bottom clues are 2, 3, 1, 1, 1, 2. A blue arrow points from the empty grid to the solved grid. The solved grid contains the following ship segments: White fleet (open shapes) includes a 2x1 ship at (1,5)-(2,5), a 1x1 ship at (2,1), a 1x1 ship at (3,3), a 2x1 ship at (4,1)-(4,2), and a 1x1 ship at (5,4). Black fleet (filled shapes) includes a 3x1 ship at (1,1)-(1,3), a 2x1 ship at (1,4)-(1,5), a 1x1 ship at (2,2), a 2x1 ship at (3,2)-(3,3), a 1x1 ship at (4,3), a 1x1 ship at (5,1), and a 1x1 ship at (5,5). Below the grid are the ship pieces: White fleet pieces include a 2x1 ship, a 3x1 ship, and three 1x1 ships. Black fleet pieces include a 2x1 ship, a 3x1 ship, and three 1x1 ships.

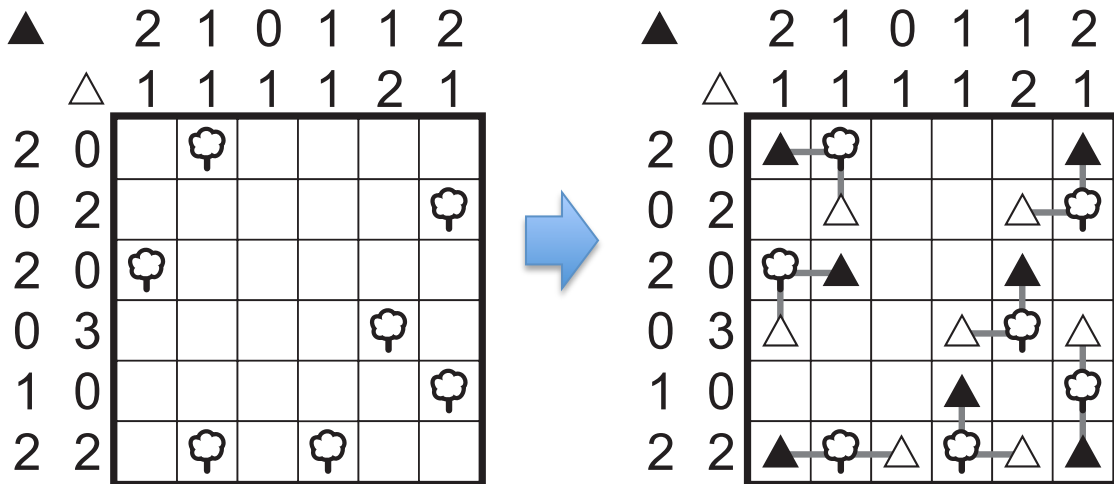
Puzzle 7 – Tents (2 points)

Locate some tents in the empty cells of the grid so that each tent is attached to a tree in an adjacent cell and each tree has one adjacent tent attached. Tents do not touch each other, even diagonally. Numbers on the left and top edges of the grid reveal the total number of tents in that row or column.



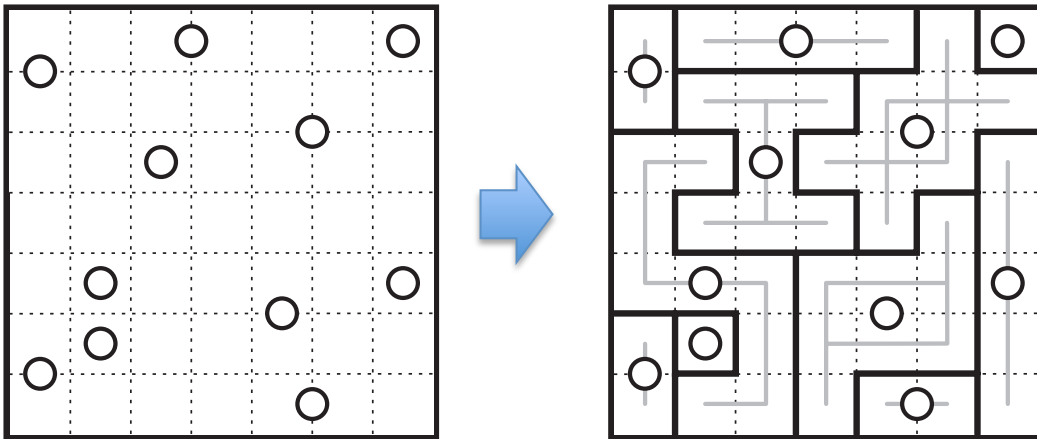
Puzzle 8 – Doubled Tents (8 points)

Standard Tent Rules except that instead of one set of tents, there are two sets of tents (one white and one black). Tents of the same colour are not allowed to touch, even diagonally; tents of different colours can touch but not overlap. Numbers on the left and top edges of the grid reveal the number of white or black tents in that row or column.



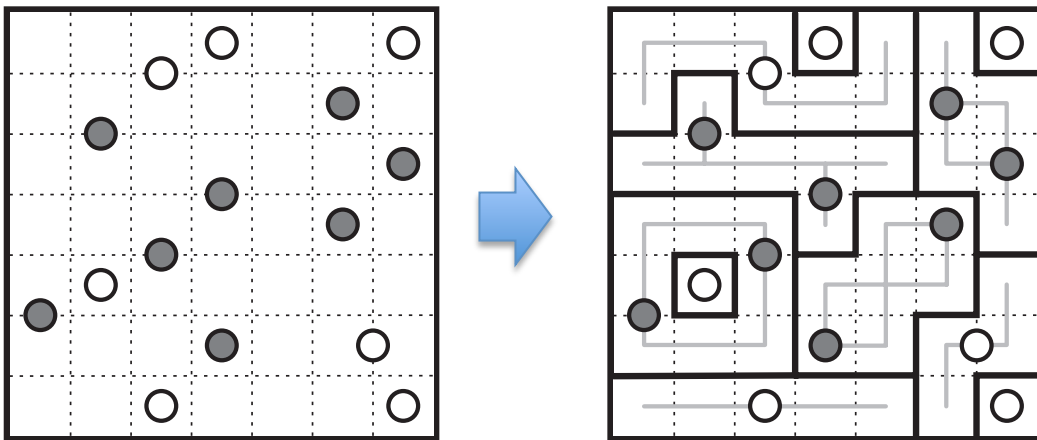
Puzzle 9 – Spiral Galaxies (8 points)

Divide the grid along the indicated lines into connected regions ("galaxies") with rotational symmetry. Each cell must belong to one galaxy, and each galaxy must have exactly one circle at its center of rotational symmetry.



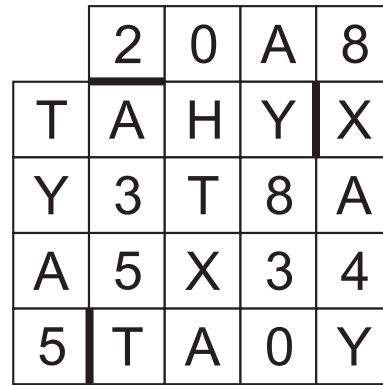
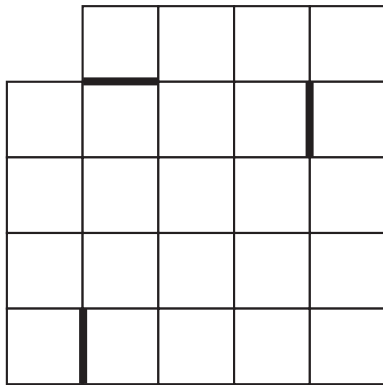
Puzzle 10 – Doubled Spiral Galaxies (7 points)

Standard Spiral Galaxies rules except that some circles are shaded grey and must belong to galaxies containing two circles, not one, with the circles in rotationally symmetric spots for those galaxies.



Puzzle 11 – Criss-Cross (4 points)

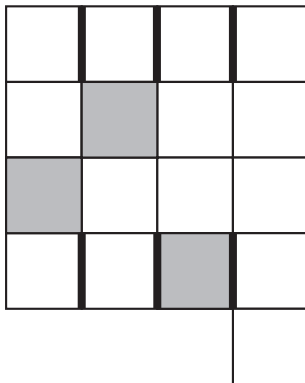
Place a single character in each cell so that every word from the list can be found in the given grid, reading left-to-right or top-to-bottom.



- A35T A5X34
- TAHY AY830
- TA0Y Y3T8A
- TYA5 0HTXA
- 20A8 8XA4Y

Puzzle 12 – Doubled Criss-Cross (6 points)

Standard Criss-Cross rules except that some cells are shaded grey and must contain two characters, not one. The doubled characters in these cells must appear in the same order from left-to-right and top-to-bottom.



- X53A8
- 40X50
- 40X58
- A4T0H
- T043X
- T0X4Y

Puzzle 13 – Shikaku (2 points)

Divide the grid along the dotted lines into rectangles. Each rectangle must contain exactly one number, with an area in cells equal to the value of that number.

6				8
		4	6	
		4	3	
8				10



6				8
		4	6	
		4	3	
8				10

Puzzle 14 – Doubled Shikaku (3 points)

Standard Shikaku rules, except that each rectangle must contain exactly two numbers with an area equal to the sum of those numbers.

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



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

Puzzle 15 – Nurikabe (7 points)

Shade some empty cells black so that the grid is divided into white areas, each containing exactly one number and with an area in cells equal to the value of that number. Two white areas may only touch diagonally. All black cells must be connected with each other, but no 2 x 2 square of cells can be entirely shaded black.

		6			
	4				
		3			
	4				
					4



		6			
	4				
		3			
	4				
					4

Puzzle 16 – Doubled Nurikabe (8 points)

Standard Nurikabe rules, except that each white area must contain exactly two numbers with an area equal to the sum of those numbers.

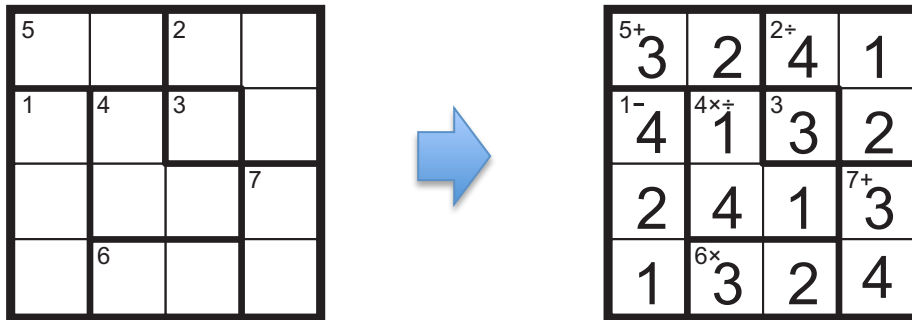
1		2		3		4
				5		6
2			2			



1		2		3		4
				5		6
2			2			

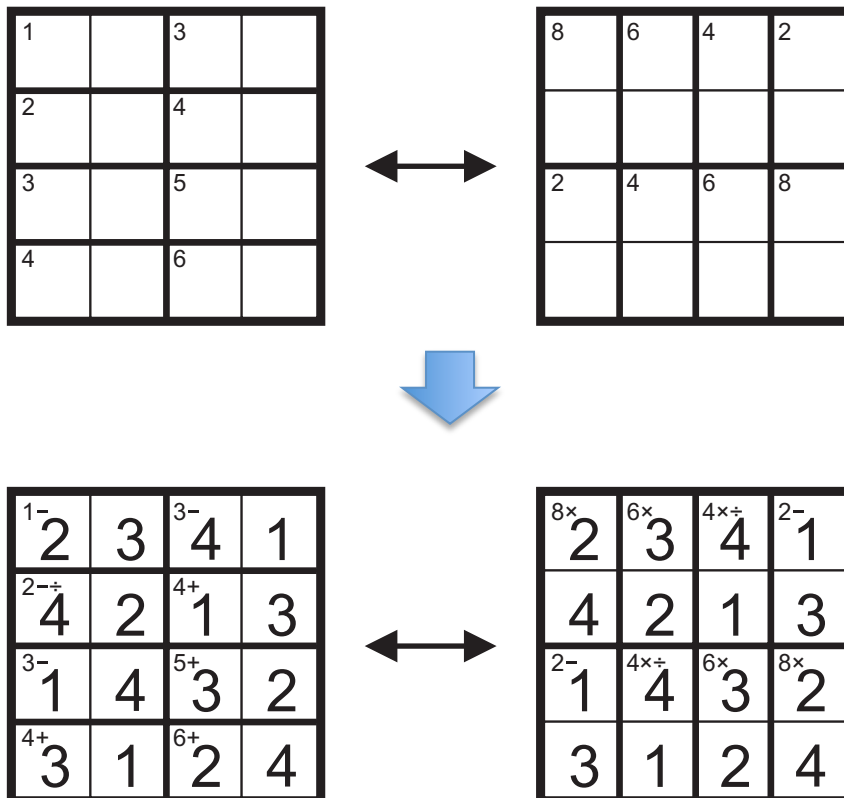
Puzzle 17 – TomTom (5 points)

Insert a single digit from 1 to N into each cell in the N by N grid so that no digit repeats in any row or column. Also, the number in the upper-left of each bold cage must indicate the value of some mathematical operation (addition, subtraction, multiplication, or division) applied successively to all digits in the cage, starting with the largest digit for subtraction and division. Digits can repeat within a cage.



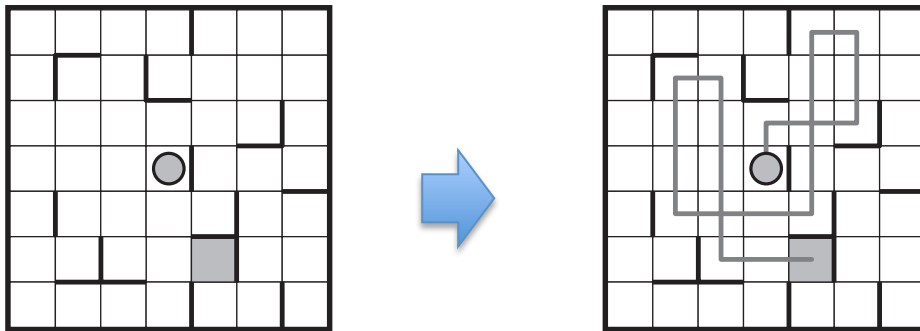
Puzzle 18 – Doubled TomTom (10 points)

Standard TomTom rules, except that instead of one grid there are two grids provided. The solution to the puzzle will be the arrangement of digits that simultaneously solves both grids. To receive credit, one grid must be fully completed.



Puzzle 19 – Rolling Maze (5 points)

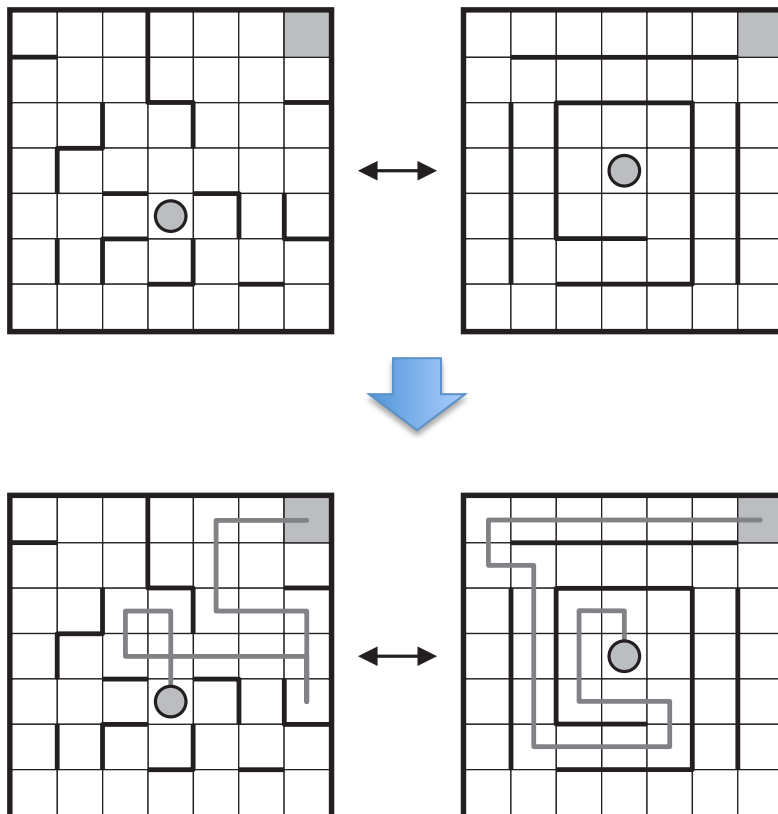
Find a sequence of 15 moves (10 in the example), each going in one of the four directions up, down, left, right, so that the grey ball in the maze stops on the grey square after all moves are made. For each move, the ball rolls until it hits a wall and then stops. The maze is only finished when the ball stops on the grey square; it is not sufficient to roll over it. It is sufficient to write out the set of moves (as U,D,L,R) to receive credit.



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Puzzle 20 – Doubled Rolling Maze (12 points)

Standard Rolling Maze rules, except that instead of one grid there are two grids provided. The solution to the puzzle will be the sequence of 15 moves (10 in the example) that simultaneously solves both grids. The balls must both be stopped on the grey squares after 15 moves, regardless of whether a single ball ever reached its goal at an earlier point in time. It is possible for only one ball to change positions during a move due to the other ball being pinned by walls.

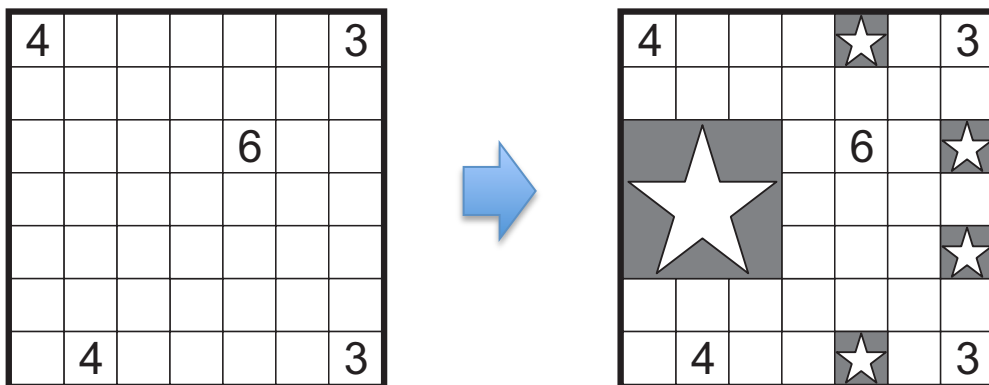


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PART 7	Around the world in 80 puzzles Serbian Snacks	
Individual round	60 minutes	120 points*

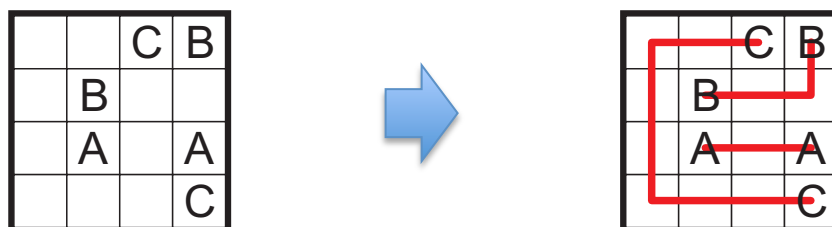
Puzzle 1 – Five Stars (2 points)

Place five stars into the grid so that their cells do not touch each other or cells with numbers, not even diagonally. One of the stars is large and covers 3 x 3 cells, the others are small and cover a single cell. Digits denote the number of cells occupied by stars in the same row/column.



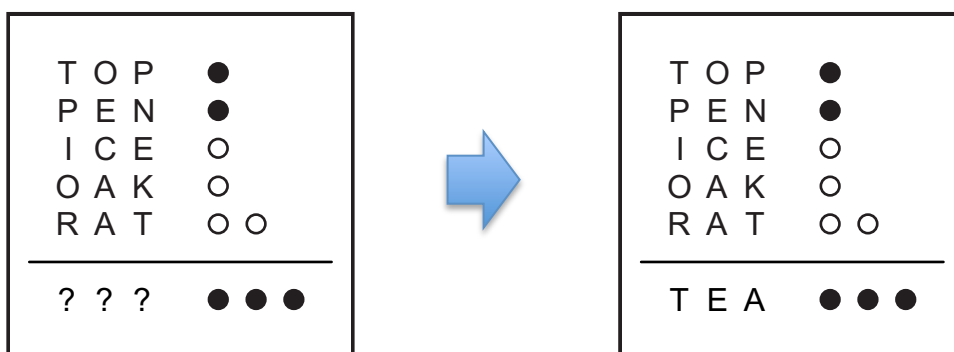
Puzzle 2 – Arukone (2 points)

Connect identical letters by lines of horizontal and vertical segments that do not cross or overlap each other.



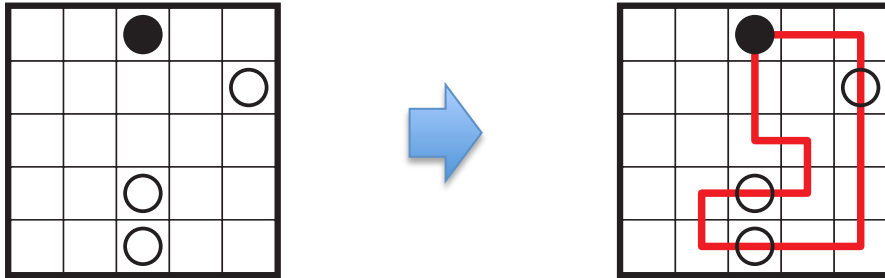
Puzzle 3 – Mastermind (2 points)

There is a word hidden beneath the question marks. A couple of guesses are marked using black and white circles. The number of black dots indicates the number of letters that are in the correct position. The number of white dots indicates the number of letters that are part of the hidden word but at a different position. Find the hidden word.



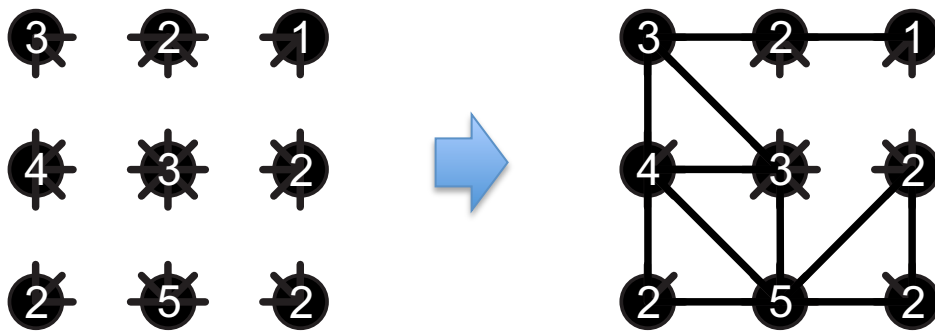
Puzzle 4 – Masyu (3 points)

Draw a single, non-intersecting loop that passes through all circled cells but not necessarily through all empty cells. The loop must go straight through the cells with white circles, with a turn in at least one of the cells immediately before/after each white circle. The loop must make a turn in all the black circles, but must go straight in both cells immediately before/after each black circle.



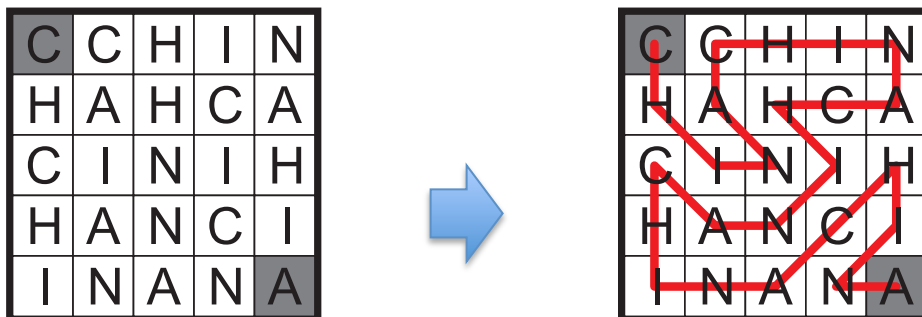
Puzzle 5 – Spokes (3 points)

Draw some spokes into the grid to ensure that all nodes are eventually connected. Spokes can go in any of the eight directions (horizontally, vertically or diagonally) but cannot cross each other. Digits in a node indicate the number of spokes starting from that node.



Puzzle 6 – Password Path (4 points)

Draw a path from the top left corner to the bottom right corner that consists of horizontal, vertical and diagonal segments and travels through all cells of the grid exactly once. The path cannot touch, overlap or cross itself. Along the path, the order of the letters encountered is the repetition of the given password.



Password: CHINA

Puzzle 7 – February Math (4 points)

Place all missing numbers from 1 to 28 into the grid so that every number is used exactly once eventually. The sum of the numbers in every column should be exactly 58. The sum of the numbers in every row should be a three digits number. An auxiliary table with all missing numbers will be provided along with the puzzle.

12						5
13	3	23		28	8	7
16	4	6		27	11	24
	26		10		18	



12	25	20	15	2	21	5
13	3	23	19	28	8	7
16	4	6	14	27	11	24
17	26	9	10	1	18	22

Puzzle 8 – Four Snails (5 points)

Place all the given words into the grid so that each of them goes into one of the snails starting outside and reading towards the middle. Words do not have to be contiguous, there may be one or more empty cells inside them, before them or after them. No letter is repeated in any row or column. Some letters are already given and some cells are marked with “-”, these contain no letter.

			W		
		D			
-					-



S	Y				M
Y			W		O
E	N	D	O	C	S
	E	W	N	S	
-	K	Y	E	-	
N	R	O	H	T	A

ATHENS
MOSCOW
NEW YORK
SYDNEY

Puzzle 9 – Domino Hunt (4 points)

The set of domino tiles were drawn into the grid, each tile exactly once, without overlapping. Unfortunately, the tile boundaries have later been erased. Reconstruct the tiles.

1	2	2	1
0	2	0	1
0	2	1	0



1	2	2	1
0	2	0	1
0	2	1	0

0	0	1	1
0	1	1	2
0	2	2	2

Puzzle 10 – Snake (5 points)

Find a snake in the grid whose body consists of horizontal and vertical segments and its total length is 45 cells. The snake's body never touches itself, not even diagonally. The head and tail of the snake are given. Digits outside the grid indicate the number of cells occupied by the snake in that row/column.

	3	5	5	1	5	3	7	4	5	7	
4											
2											
6											
7											
2											
6											
4											
3											1
7											
4	45										



	3	5	5	1	5	3	7	4	5	7	
4							█	█	█	█	
2							█			█	
6		█	█	█	█						
7	█	█			█	█			█		
2	█										
6	█	█					█	█	█		
4			█			█	█				
3											1
7		█	█			█	█	█	█		
4	45								█	█	

Puzzle 11 – Fillomino (6 points)

Divide the grid into regions along the grid lines so that no two regions of identical size share an edge (but may touch at a single point). All the given numbers are equal to the area of the region they are in. It is possible for a region to contain one or multiple numbers or none at all.

3			1
	3		3
2			
	2		3

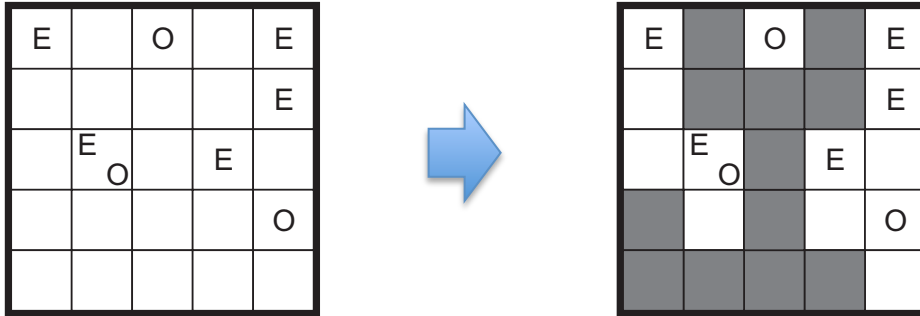


3			1
	3		3
2			
	2		3

Puzzle 12 – Odd/Even Tapa (8 points)

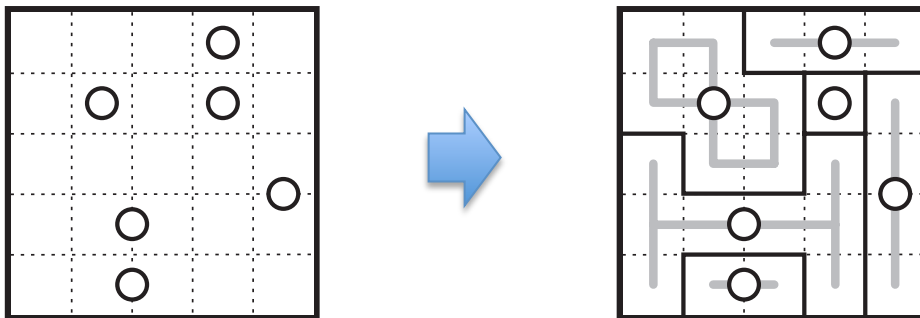
Standard Tapa rules apply: shade some empty cells black to create a single connected wall. Numbers in a cell indicate the length of consecutive shaded blocks in the neighbouring cells. If there is more than one number in a cell, then there must be at least one white (unshaded) cell between the black cell groups. Cells with numbers cannot be shaded, and the shaded cells cannot form a 2×2 square anywhere in the grid.

In this puzzle, numbers are replaced with letters. Odd numbers are replaced with letter „O”, even numbers are replaced with letter „E”.



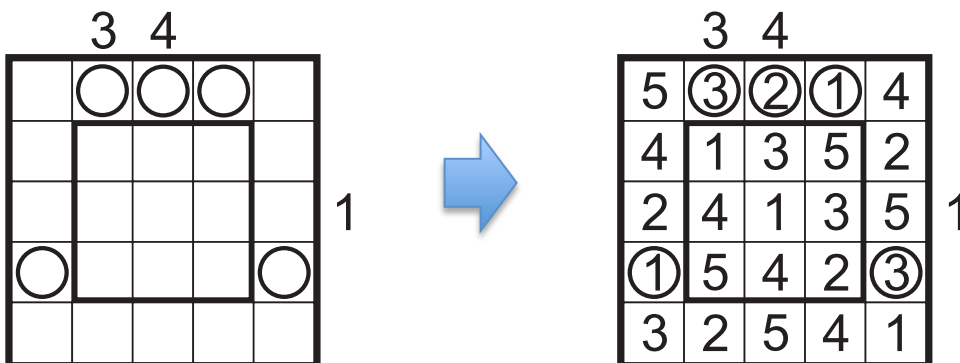
Puzzle 13 – Spiral Galaxies (8 points)

Divide the grid into connected regions (“galaxies”) so that each of the regions has exactly one circle inside. Every region must have rotational symmetry and the circle must be the centre of the rotational symmetry.



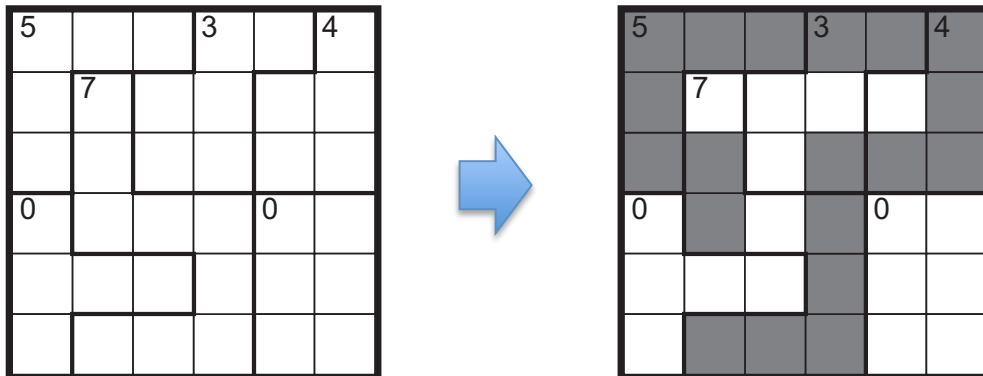
Puzzle 14 – Double Skyscrapers (7 points)

Enter a digit from 1 to 6 (1 to 5 in the example) into each cell so that each row and column contains each number exactly once. Each digit in the grid represents the height of a building and the clues on the outside of the grid indicate how many buildings can be "seen" when looking from that direction. Taller buildings block smaller ones from being seen. In addition, digits in cells in the outer grid with a circle provide similar Skyscrapers clues for the inner grid for a horizontal or vertical (but not diagonal) direction. All such cells are marked with a circle.



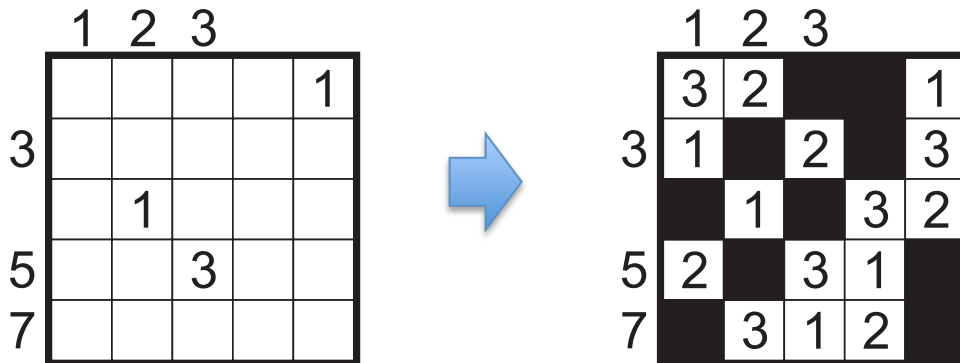
Puzzle 15 – Regional Snake (6 points)

Find a snake in the grid whose body consists of horizontal and vertical segments and its total length is 45 cells. The snake's body never touches itself, not even diagonally. The head and tail of the snake are not given. Numbers in each of the regions surrounded by thick lines denote the number of cells occupied by the snake in that region.



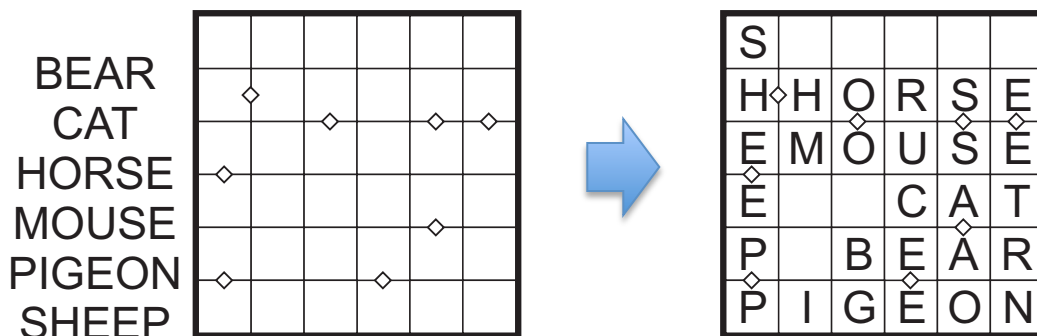
Puzzle 16 – False Doppelblock (10 points)

Blacken some cells, then fill in the remaining empty squares with digits 1–6 (1–3 in the example) so that each row and column contains two black squares and all the digits exactly once. Numbers outside the grid provide a clue on the sum of digits between the two black squares in that row/column. However, these clues are all off by one, the actual sum is one higher or one lower than the given clue.



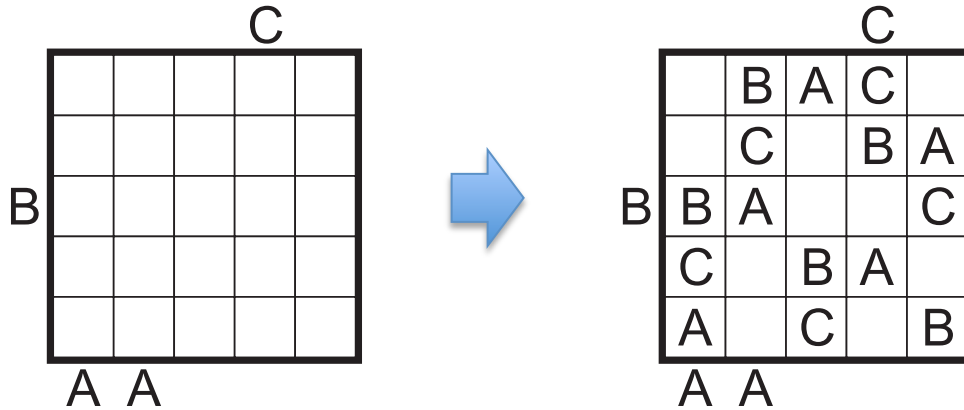
Puzzle 17 – Letter Pairs (9 points)

Place all the given words into the grid so that they read either across or down, without crossing or overlapping each other. Wherever two adjacent cells contain the same letter, those two cells are marked with a dot on the boundary between them. There are no groups with more than two connected cells containing the same letter anywhere in the grid.



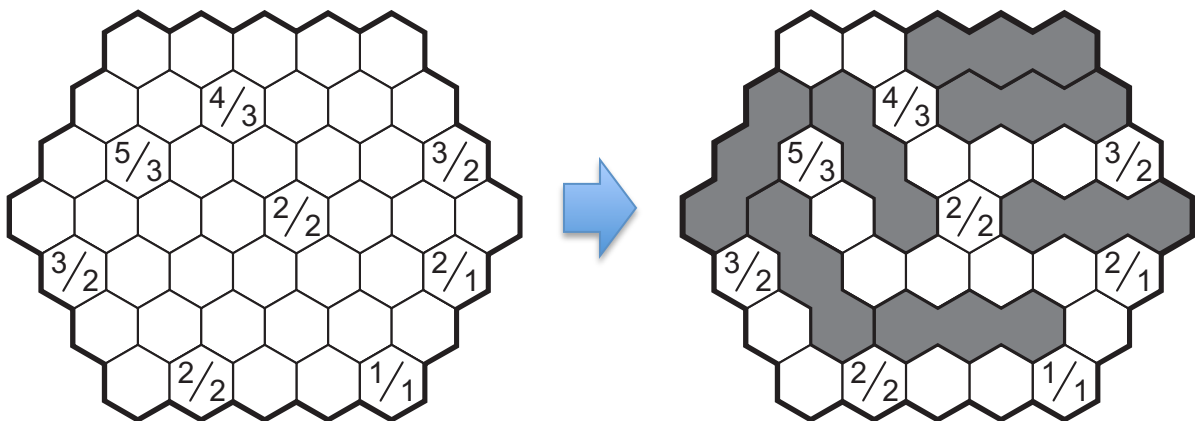
Puzzle 18 – Easy as ABCDE Untouch (8 points)

Fill in the grid with letters ABCDE (ABC in the example) so that each row and column contains each letter exactly once. Some cells remain empty. Letters outside the grid indicate the first letter in that row/column from that direction. Cells inside the grid containing identical letters cannot touch each other diagonally.



Puzzle 19 – Hexa Briquets (12 points)


Place some blocks of three hexagons connected along a straight line (“briquets”) into the grid so that they do not overlap numbers or each other. For any given pair of numbers in a clue cell, the left number indicates the number of surrounding cells occupied by briquets, while the right number indicates the number of briquets occupying the surrounding cells. The cells that are not covered by briquets (with or without numbers) must all be connected.



Puzzle 20 – Pento Corral (12 points)

Place the given set of pentominoes into the grid, each of them exactly once. Pentominoes may be rotated and/or reflected. Pentominoes form a standard corral: all painted cells are connected, there are no 2 x 2 area painted, and the corral does not touch itself, not even diagonally. Numbers outside the grid indicate the length of contiguous blocks occupied in that row/column, in an increasing order, not necessarily in the order the blocks appear.

				1	1									1	1				
				1	1	1	1					1	1						
				3	1	1	2	1	1	1	1	3	1						
				4	3	3	3	1	5	3	3	6	1						
1	1	1																	
1	3	4																	
1	1	3																	
1	2	5																	
1	1	1																	
1	1	2	2																
1	1	1																	
2	2	3																	
1	2																		
9																			



				1	1									1	1				
				1	1	1	1					1	1						
				3	1	1	2	1	1	1	1	3	1						
				4	3	3	3	1	5	3	3	6	1						
1	1	1																	
1	3	4																	
1	1	3																	
1	2	5																	
1	1	1																	
1	1	2	2																
1	1	1																	
2	2	3																	
1	2																		
9																			

