World Class Puzzles
from The Netherlands

OPEN DUTCH CHAMPIONSHIPS
SUDOKU AND PUZZLES
2021

SATURDAY 29TH OF MAY, 2021

INSTRUCTION BOOKLET

ORTEC

OPTIMIZE YOUR WORLD

Preface

Dear participants,

Welcome to the **Open Dutch Sudoku and Puzzles Championships 2021**. The championships are organized by the Dutch puzzle association **WCPN** (World Class Puzzles from the Netherlands) in association with **ORTEC**, one of the world's leaders in optimization software and analytics solutions. Unlike previous years the championships will take place online, for well known reasons.

In this instruction booklet you will find all necessary information about the championships; the schedule of the day, rules and regulations and example puzzles, including solutions. You will also find the value of the puzzles (the amount of points), so you can decide in advance which puzzles you want to solve.

We wish you lots of fun preparing and good luck during the championships.

On behalf of WCPN,

Richard Stolk
Saskia Benedictus
René Gilhuijs

P.S. The WCPN-board would like to thank all the puzzle creators for delivering the puzzles for these championships; Bram de Laat, Arvid Baars, Saskia Benedictus and Richard Stolk; Thanks very much! It has become a nice diverse collection of puzzles!

We would also like to thank Anke Eendebak for her ICT-support. Her expertise helped greatly in enabling us to transform the championships to become an online event!

Content

Time schedule during the day: *)

Round:		starting time	ending time
Sudoku – round 1	(30 min)	9:45	10:15
Sudoku – round 2	(60 min)	11:00	12:00
---break---			
Puzzle – round 1	(30 min)	13:45	14:15
Puzzle – round 2	(60 min)	15:00	16:00

*) Please take good notice of the following: These Championships are **OPEN**, and **no prizes** will be rewarded.

In order to participate in the **OFFICIAL dutch championships** you have to either be a member of WCPN, or an employee of ORTEC. In that case you have to formally register, and also keep to the time schedule mentioned in the "**INSTRUCTIEBOEK NK PUZZELEN EN SUDOKU**". Also, the way to obtain the puzzles is slightly different for both groups.

Example puzzles in both booklets are exactly the same. You can therefore use this booklet if you want to have english translations of the puzzles or if you want to read the instruction of the composition of the cluelines in English.

Overview of puzzles and points

All sudoku and puzzle types that will appear in the championships are mentioned here, with their corresponding points.

OVERVIEW SUDOKU CHAMPIONSHIP

Round	Puzzle	Points
round 1	A. Classic	40
Classical	B. Classic	72
	C. Diagnoal	48
	D. Non Consecutive	60
	E. Windoku	80
30 minutes		***300***

Round	Puzzle	Points
round 2	A. XV	46
Assorted	B. Next to nine	46
	C. Search nine	61
	D. 1-5-9	77
	E. Mathrax	79
	F. Serbian Frame	82
	G. Greater than Kropki	103
	H. Tic-tac-toe	106
60 minutes		***600***

OVERVIEW PUZZLE CHAMPIONSHIP

Round	Puzzle	Points
round 1	A. Tents	19
30 minutes	B. Easy as ABC	22
no limits	C. Nurikabe	42
	D. Myopic Star Battle	41
	E. Sum skyscrapers	58
	F. Numberlink	13
	G. Japanese sums	43
	H. Touching Pentominos	62
30 minutes		***300***

Round	Puzzle	Points
round 2	A. Slitherlink	30
the hour	B. Fillomino	40
of power	C. Pentomino - Regions	62
	D. Heyawacky	63
	E. Blackout Domino	76
	F. Cave	59
	G. Magnets	66
	H. Hidato - Holes	65
	I. Snake	78
	J. Neighbours - Skyscrapers	61
60 minutes		***600***

Please pay attention:
When you return your solutions within the given time limit (30 minutes for the first rounds, and 60 minutes for the second rounds), you will be rewarded **10 bonus points** for every full minute your solutions were received before the time limit exceeds. The times noted on your solution form when received by WCPN on their website are binding.

Therefore be aware of the time schedule. The time schedule in this booklet is the time schedule for the Open Dutch Championships, for which NO prizes are rewarded!

Who can participate?

Everybody can participate in the Open Dutch Sudoku and Puzzles Championships 2021. There will be a separate classification for these Open Participants, but no prizes will be rewarded. Only the results of the members of the Dutch Puzzle Association WCPN will be part of the official result of the championships. And there will be a separate result for employees of ORTEC as well.

Etiquette

We expect everybody to solve the puzzles individually, without the help of aids like calculators, solvers, etc. and without having contact about the puzzles with other persons. In an online tournament we obviously cannot check the participants. Therefore, in the spirit of good sportsmanship, we expect everybody to participate in a fair, honest way. When we nevertheless detect that someone has cheated, the organization has the right to remove this person from the results.

Results

For each championship three prizes will be awarded to the persons who finish first, second and third. The final result is calculated by adding the results of the two rounds. The person who has the most points after two rounds is the winner. In case of a tie, the person who has sent in his results the quickest will win over the person who sent in the results slower. You will be rewarded 10 bonus points for every full minute your solutions were received before the time limit exceeds.

Downloading and printing puzzles

A link will become visible on the Homepage of WCPN (**www.WCPN.nl**) at 9:30 on the day of the tournament. Upon following this link, you will be directed to a page, where the puzzles will become available as a pdf document exactly at the moment each round starts.
You will have to download this pdf, and print the puzzles yourself. Therefore, make sure your printer is ready at the start of each round.
(hint: start puzzling after printing the first page 😉, or solve the puzzles digitally if you have a suitable device)

Returning your solutions to WCPN

On the same page as the puzzles, the submission forms will become visible. For each round you will find there is a different submission form. Fill in all your details and solutions according to the following rules:

- Fill in your **status** first (member of WCPN, employee of Ortec, or Other). This is necessary to establish the proper rankings.

- Use exactly the **same name** and e-mail-address for all your submissions. Otherwise we will not be able to combine your results from different rounds.

- Make sure you have fillled in the correct **characters** (digits, letters, symbols) for each clueline. Check the next chaptire on how to compose the cluelines.

- You are advised to submit only **one form per round**. After sending a form, it will be cleared of all the answers. So if you want to submit again, you'll have to fill in all previous answers too. For efficiency reasons, we will only process the last submitted form.

- Be sure to submit your answers **in time**. There will be a counter telling you how much time there is still left for the round. Submissions that were received too late are not taken into account. Beware to check the correct counter; for the official dutch championship the rounds will start and end earlier than for the open championship.

- You will receive a **copy** of your submitted answers on the e-mail account specified in your submission form.

Composition of cluelines

➔ For each Sudoku and each Puzzle you have to submit **two solved rows** by means of the submission form. For each puzzle these rows are indicated by an orange arrow. Also, which rows are needed is mentioned on the submission form for each separate puzzle.

Below it is explained how the cluelines need to be composed for wach puzlle type.

For **sudokus** you will simply copy the nine digits in the indicated row:

Sudoku

2	9	8	7	5	1	6	4	3

The cluelines have to be typed into the solution cell **without the addition of any spaces**! Therefore in case of this sudoku, this becomes: 298751643

Be aware of fact that in the Next to Nine sudoku, the clue cells are NOT part of the solution.

Some puzzles contain **empty or black cells**. These have to be replaced by a small hyphen:

Empty / Black cell

-

For all **puzzles involvin**g the **placement of letters, numbers or digits** all rules mentioned above apply:

1-B	Easy as ABC	D	E	C	B	A	-	-			
1-E	Sum Skyscrapers	7	4	1	6	2	5	3			
1-F	Numberlink	1	2	4	7	7	7	7	8	5	3
1-G	Japanese sums	4	-	5	7	3	-	-	-		
2-B	Fillomino	7	3	2	9	9	7	3	5	5	8
2-E	Blackout Domino	3	3	3	-	4	**-**	1	1	2	2
2-H	Hidato Holes	11	5	6	43	42	40	21	22	23	
2-J	Neighbours Skyscrapers	1	3	3	2	1	2	1	3	2	1	3

Please pay attention to the following:

- For the Numberlink puzzle you have to submit for each cell the digit that belongs to the line that travels through that cell.
- For the Fillomino puzzle you have to submit for each cell the digit that belongs to that bold outlined region.
- For the Blackout Domino puzzle some cell are not part of the original grid, but the puzzle continues beyond that cell. For these cells also a small hyphen is used (such as in the example between the 4 and the 1, indicated in **bold** here).
- For the Hidato Holes puzzle the numbers sometimes are composed of two digits. Of course both digits have to be submitted.
- For the Neighbours Skyscrapers puzzle the digits outside the 9x9 grid are part of the puzzle, and therefore also have to be submitted. Therefore this solution contains 11 digits.

For **puzzles involving** the **placement of objects**, certain letters have to be submitted representing each object.

1-A	Tents	⚠	T	*T for Tent*
		🌳	O	*letter O, not digit 0*
1-G	Myopic Star battle	★	O	*letter O, not digit 0*
2-B	Snake	▨	S	*S for Snake*
2-G	Magnets	+	P	*P for PLUS*
		−	M	*M for MINUS so NOT a hyphen!*

For **puzzles involving pentominos**, each pentomino is represented by a letter corresponding to its shape. If a cell contains a pentomino, you have to fill in this designated letter in the clueline:

| 1-H | Touching Pentominos |
| 2-C | Pentomino Regions |

F	I	L	N	P	T	U	V	W	X	Y	Z

For **puzzles involving loops** you have to indicate for each cell in the clueline wether it falls inside (I for IN) or outside (O for OUT) this loop:

| 2-A | Slitherlink | | I | in | *letter I, not digit 1* |
| 2-F | Cave | | O | out | *letter O, not digit 0* |

For **puzzles involving blackening cells**, you have to indicate whether the cell is black (B for BLACK) or empy (hyphen: -):

| 1-C | Nurikabe |

-	-	B	-	B	B	B	B	B	-

| 2-D | Heyawacky |

-	B	-	-	B	-	-	-	B	-

SUDOKU - CLASSIC

PUZZLE 1-A & B; 40 & 72 POINTS

Place the digits from 1 to 9 in every row, colum and 3x3 block.

➜

1	2							
3	4		5		7	9		
			6				5	
	9	8	7				4	
	6					3	2	1
	8				4			
		4	8		5		6	7
							8	9

➜

1	2	3	3	4	9	8	7	6
3	4	6	5	8	7	9	2	1
8	7	9	6	1	2	3	5	4
2	9	8	7	5	1	6	4	3
4	1	3	2	6	8	7	9	5
5	6	7	4	9	3	2	1	8
6	8	1	9	7	4	5	3	2
9	3	4	8	2	5	1	6	7
7	5	2	1	3	6	4	8	9

➜ | 2 | 9 | 8 | 7 | 5 | 1 | 6 | 4 | 3 |

SUDOKU - DIAGONAL

PUZZLE 1-C; 48 POINTS

Place the digits from 1 to 9 in every row, colum, 3x3-block and both diagonals.

➜

		4		2		5		
	1		9		7		2	
		5		9		3		
	6		3		8		5	
		7		1		6		
	7		2		5		4	
		9		3		8		

➜

9	5	2	6	4	3	7	1	8
7	3	4	8	2	1	5	9	6
6	1	8	9	5	7	4	2	3
2	8	5	4	9	6	3	7	1
4	6	1	3	7	8	9	5	2
3	9	7	5	1	2	6	8	4
8	7	3	2	6	5	1	4	9
5	2	9	1	3	4	8	6	7
1	4	6	7	8	9	2	3	5

➜ | 2 | 8 | 5 | 4 | 9 | 6 | 3 | 7 | 1 |

SUDOKU – NON CONSECUTIVE

Place the digits from 1 to 9 in every row, colum and 3x3 block. Horizontally and vertically adjacent cells cannot contain consecutive digits.

5								
						8		
		7	4				1	
		3	8					
					7	2		
	4				5	7		
		6						
								3
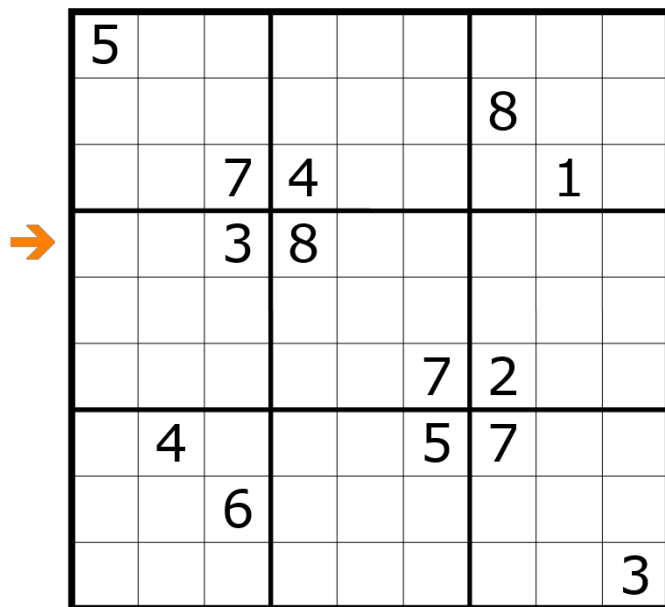
5	2	4	1	8	6	3	7	9
1	6	9	7	5	3	8	4	2
8	3	7	4	2	9	5	1	6
2	7	3	8	6	4	9	5	1
4	1	8	5	9	2	6	3	7
6	9	5	3	1	7	2	8	4
9	4	1	6	3	5	7	2	8
3	8	6	2	7	1	4	9	5
7	5	2	9	4	8	1	6	3

2	7	3	8	6	4	9	5	1

WINDOKU

Place the digits from 1 to 9 in every row, colum, bold outlined 3x3 block, as well as the four grey regions.

1						8		
	2				8		4	
		3				1		5
			4				3	
				5				
	9				6			
8		2				7		
	6		1				8	
		1						9
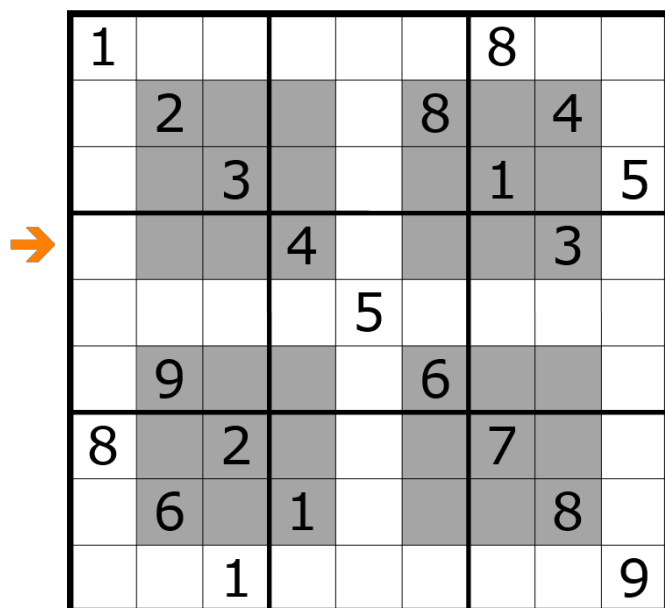
1	5	6	9	4	3	8	2	7
7	2	9	5	1	8	6	4	3
4	8	3	6	2	7	1	9	5
6	1	7	4	9	2	5	3	8
2	3	4	8	5	1	9	7	6
5	9	8	7	3	6	2	1	4
8	4	2	3	6	9	7	5	1
9	6	5	1	7	4	3	8	2
3	7	1	2	8	5	4	6	9

6	1	7	4	9	2	5	3	8

SUDOKU - XV

Place the digits from 1 to 9 in every row, colum and 3x3 block.
All two adjacent cells with digits that sum to **10** are marked with **X**.
All two adjacent cells with digits that sum to **5** are marked with **V**.

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

SUDOKU - NEXT TO NINE

Place the digits from 1 to 9 in every row, colum and 3x3 block. Clues outsite de grid indicate the digits in **all** cells adjacent to the 9 in the corresponding row or column, in ascending order.

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

SUDOKU - SEARCH NINE

Place the digits from 1 to 9 in every row, colum and 3x3 block. Every arrow is pointing at digit 9. The digit in cells with an arrow represents the distance (in number of cells) from the arrow to the 9.
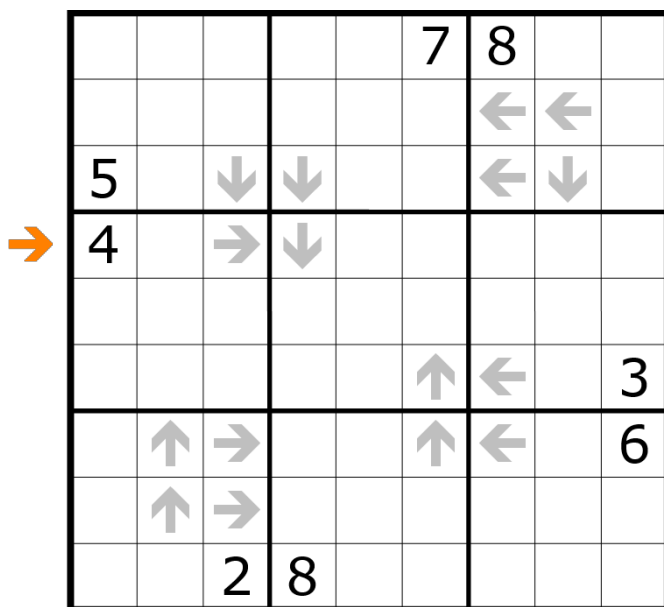
2	4	6	5	1	7	8	3	9
1	9	7	2	8	3	5	6	4
5	8	3	4	9	6	2	1	7
4	7	5	3	2	8	6	9	1
3	1	8	6	4	9	7	5	2
6	2	9	7	5	1	4	8	3
8	5	1	9	7	2	3	4	6
7	6	4	1	3	5	9	2	8
9	3	2	8	6	4	1	7	5

➜ | 4 | 7 | 5 | 3 | 2 | 8 | 6 | 9 | 1 |

SUDOKU – 1-5-9

Place the digits from 1 to 9 in every row, colum and 3x3 block. Digits in the first, fifth and ninth column indicate in which column the digit 1, 5 or 9 respectivily is placed in the corresponding row.
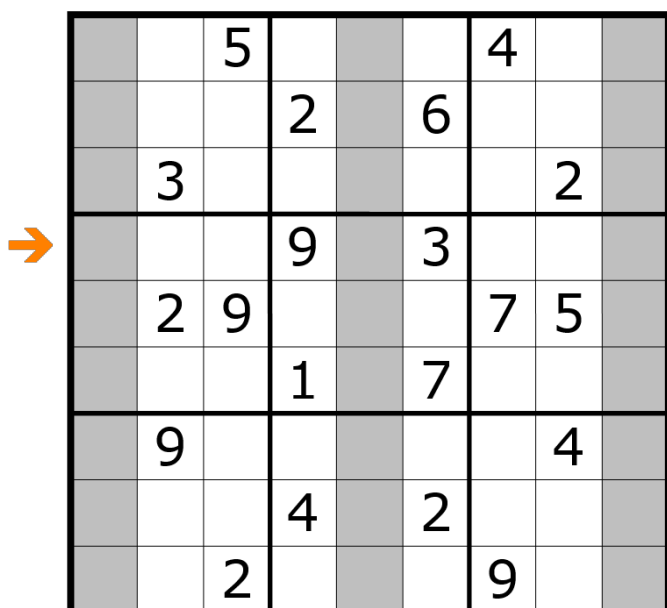
2	1	5	8	3	9	4	7	6
9	8	4	2	7	6	5	3	1
6	3	7	5	4	1	8	2	9
7	5	8	9	2	3	1	6	4
1	2	9	6	8	4	7	5	3
4	6	3	1	5	7	2	9	8
5	9	6	7	1	8	3	4	2
3	7	1	4	9	2	6	8	5
8	4	2	3	6	5	9	1	7

➜ | 7 | 5 | 8 | 9 | 2 | 3 | 1 | 6 | 4 |

SUDOKU - MATHRAX

Place the digits from 1 to 9 in every row, colum and 3x3 block. Some intersections of the grid lines are marked by a number and an operator (+, -, x, /) in a circle. The number is the result of the arithmetical operation, applied to **both** pairs of diagonally opposite cells. An "E" in the circle indicates that all four adjacent digits are even; an "O" indicates that all four adjacent digits are odd.
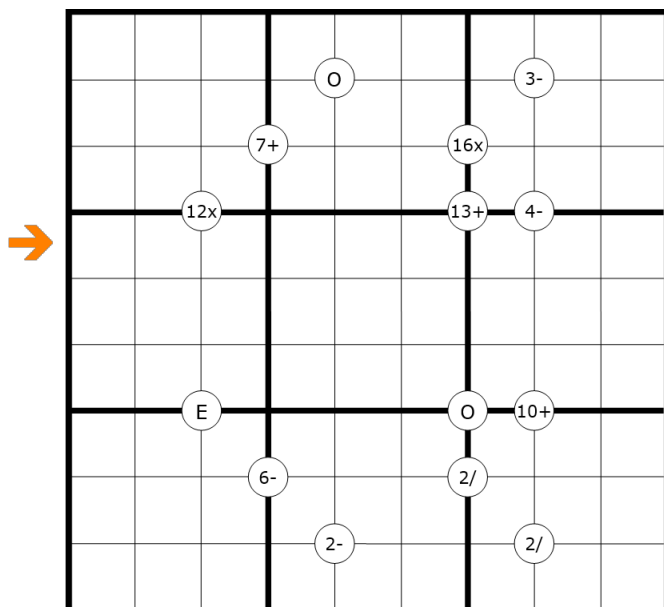
2	4	1	7	3	6	9	5	8
8	7	5	1	9	4	2	6	3
9	3	6	2	5	8	4	1	7
7	2	4	3	1	9	5	8	6
3	1	9	6	8	5	7	2	4
5	6	8	4	2	7	3	9	1
6	8	2	9	4	3	1	7	5
1	5	3	8	7	2	6	4	9
4	9	7	5	6	1	8	3	2

➜ | 7 | 2 | 4 | 3 | 1 | 9 | 5 | 8 | 6 |

SUDOKU - SERBIAN FRAME

Place the digits from 1 to 9 in every row, colum and 3x3 block. Clues on the left and right of the grid indicate the sum of the digits of the **second** and **third** cell in the corresponding (horizontal) direction. Clues above and below the grid indicate the sum of the digits of the **third** and **fourth** cell in the corresponding (vertical) direction.

	17	11		7		6		15	9	
8	6	1	7	5	2	4	9	3	8	12
5	5	3	2	8	9	7	4	6	1	10
13	8	9	4	3	6	1	5	7	2	12
➜	9	2	6	4	1	5	3	8	7	12
12	4	7	5	6	8	3	2	1	9	3
	1	8	3	9	7	2	6	4	5	
13	7	5	8	2	3	6	1	9	4	10
13	3	4	9	1	5	8	7	2	6	9
7	2	6	1	7	4	9	8	5	3	13
	8		11	11		8	7		9	

➜ | 9 | 2 | 6 | 4 | 1 | 5 | 3 | 8 | 7 |

SUDOKU – GREATER THAN KROPKI

PUZZLE 2-G; 103 POINTS

Place the digits from 1 to 9 in every row, colum and 3x3 block. In **all** cases where two digits in horizontal or vertical neighbouring cells have a consecutive value and/or one digit is two times as big as the other digit, a greater than sign is placed. Digits have to be placed in accordance with the sign.

Solution grid:
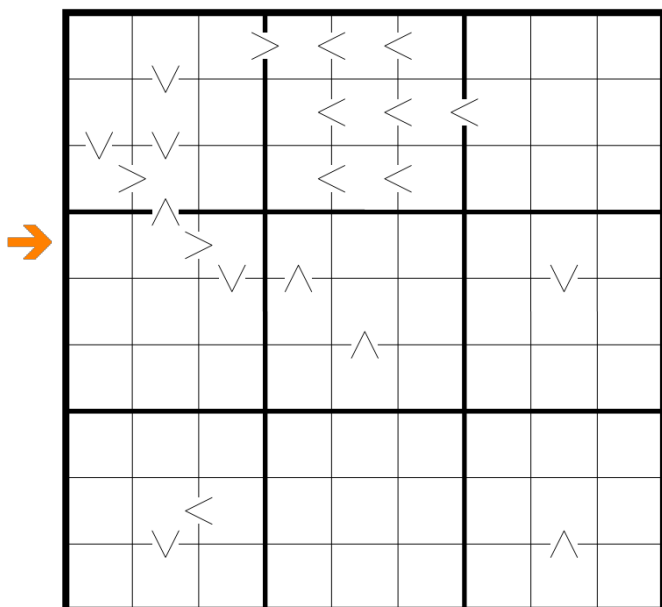
2	7	5	4	8	9	6	1	3
8	6	9	1	2	3	4	7	5
4	3	1	5	6	7	9	2	8
6	4	3	7	9	2	5	8	1
1	9	2	8	3	5	7	4	6
7	5	8	6	4	1	3	9	2
3	8	6	2	7	4	1	5	9
5	2	4	9	1	6	8	3	7
9	1	7	3	5	8	2	6	4

➜ | 6 | 4 | 3 | 7 | 9 | 2 | 5 | 8 | 1 |

SUDOKU – TIC TAC TOE

PUZZLE 2-H; 106 POINTS

Place the digits from 1 to 9 in every row, colum and 3x3 block. The central 3x3 block serves as a map to the 9 corresponding 3x3 blocks. Wherever the central 3x3 block contains an odd digit, the corresponding 3x3 block must have three odd digits in at least on line (horizontal, vertical or diagonal). Wherever it contains an even digit, the corresponding 3x3 block must have three even digits in a line. No 3x3 block can contain both a line of odd digits and a line of even digits.

Solution grid:

7	1	4	6	8	5	2	9	3
9	6	2	4	3	1	7	8	5
8	3	5	7	2	9	1	4	6
6	8	1	2	9	4	5	3	7
2	4	9	3	5	7	6	1	8
5	7	3	1	6	8	9	2	4
4	5	8	9	1	6	3	7	2
3	9	7	5	4	2	8	6	1
1	2	6	8	7	3	4	5	9

➜ | 6 | 8 | 1 | 2 | 9 | 4 | 5 | 3 | 7 |

TENTS **PUZZLE 1-A; 19 POINTS**

Attach a tent to each tree, in a horizontally or vertically adjacent cell. Cells with tents do not touch each other, not even diagonally. Clues outside the grid indicate the number of tents in that row or column.
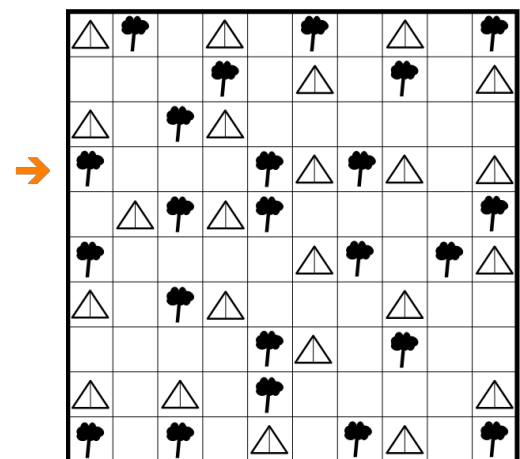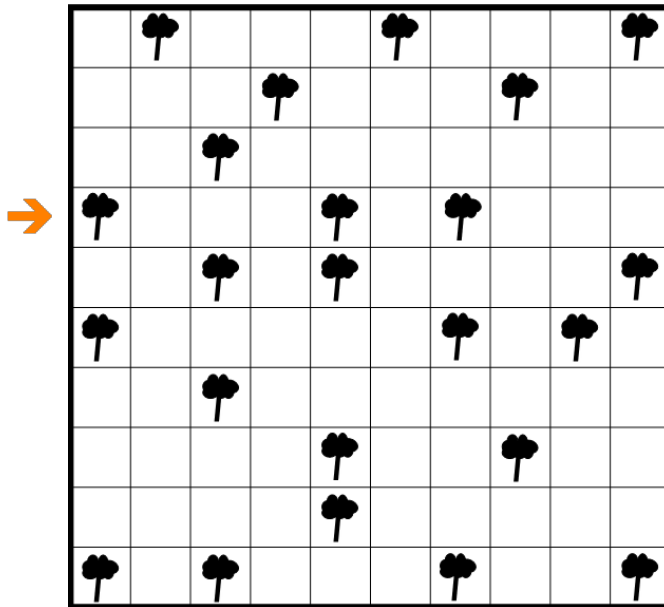
O	-	-	-	O	T	O	T	-	T

EASY AS ABC **PUZZLE 1-B; 22 POINTS**

Place the letters **A-E** exactly once in every row and column. Some cells remain empty. Clues outside the grid indicate the first letter in that row or column as seen from that direction.
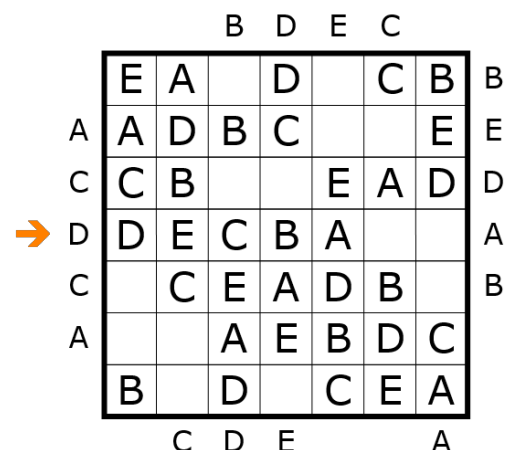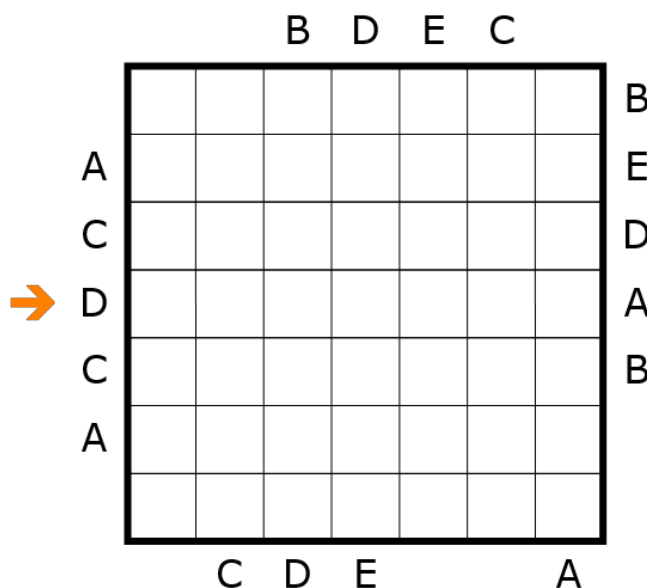
D	E	C	B	A	-	-

NURIKABE

Colour some cells such that all coloured cells are horizontally or vertically connected. Coloured cells may **not** cover any area of **2x2** cells. The remaining white cells form connected regions. Each region must contain one single number, that indicates the size of this region.
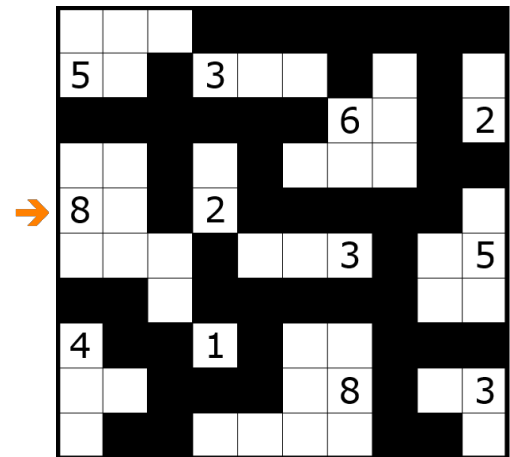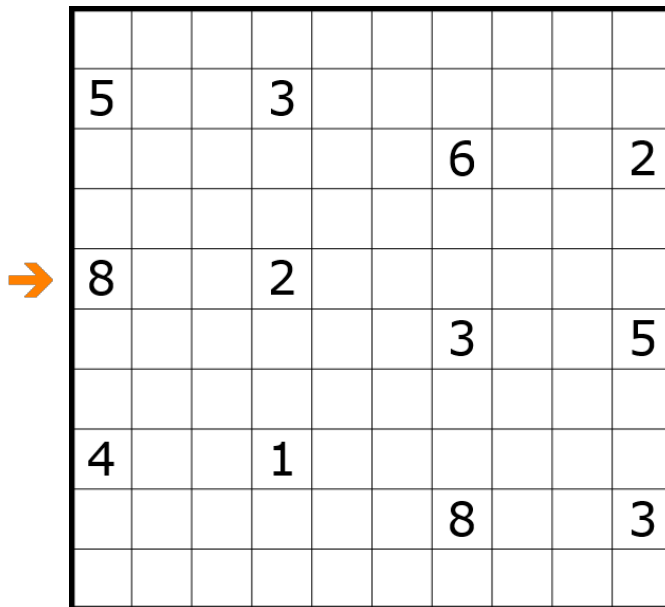
-	-	B	-	B	B	B	B	B	-

NABIJE STERRRENSLAG

Place **two** stars with the size of one cell in each row, column and bold outlined region. Stars may not touch each other, not even diagonally. Arrows in the grid indicate all the directions of the nearest star(s) when looking from that cell. Cells with arrows remain empty.

O	-	-	-	-	-	-	-	O	-
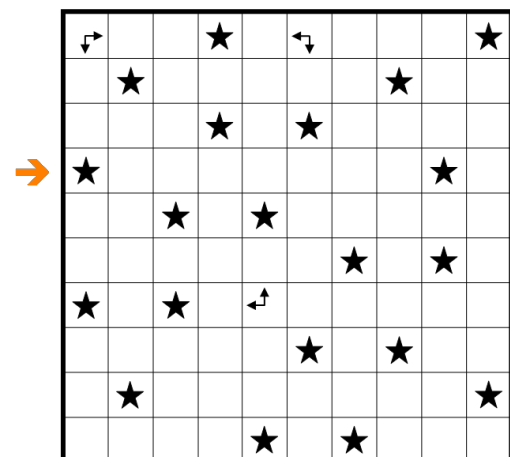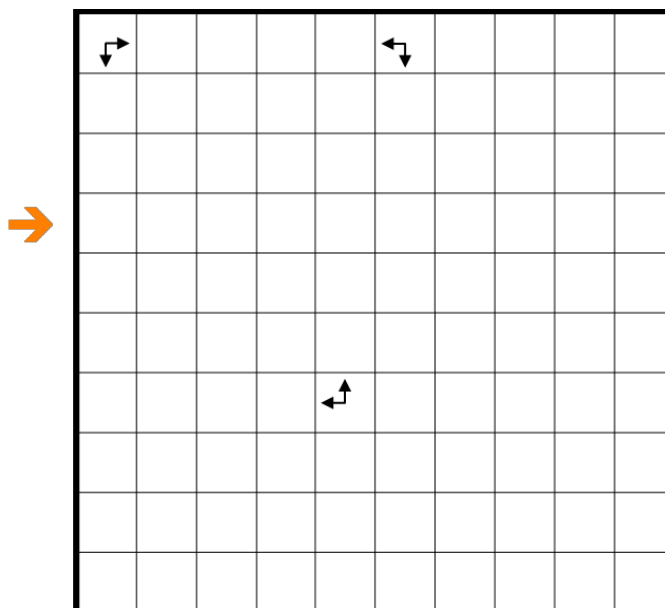
SUM SKYSCRAPERS

Place the digits **1-7** exactly once in every row and column. Each digit represents a skyscraper of that height. Clues outside the grid indicate the sum of the visible buildings from that direction, where higher buildings block the view of lower buildings.
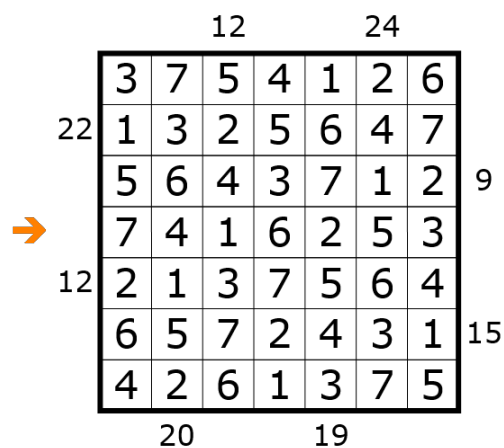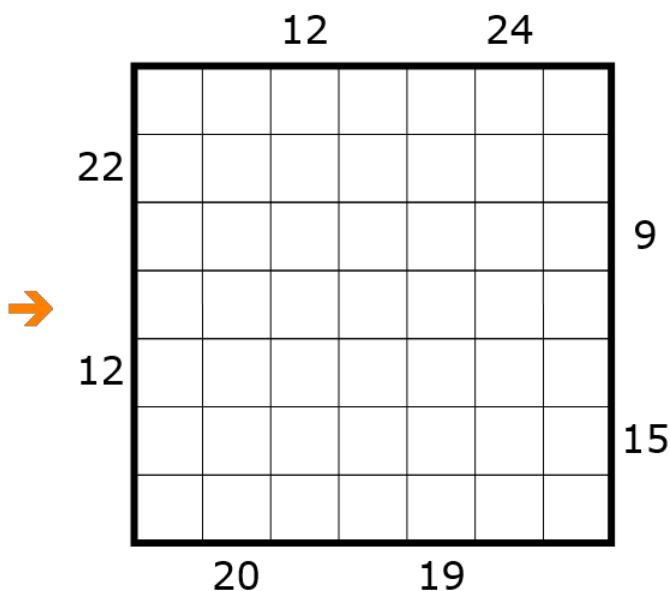
NUMBERLINK

Connect each pair of equal numbers with each other by a single line. Lines travel horizontally or vertically and don't cross or overlap each other.
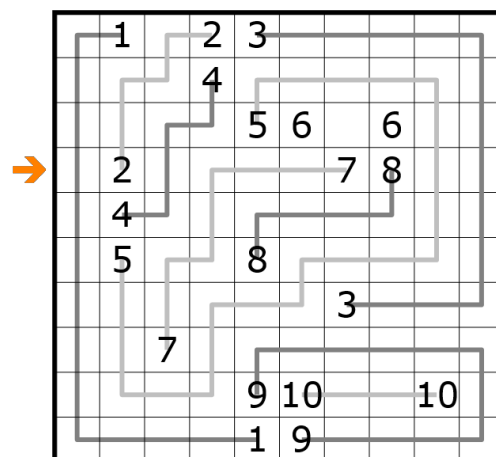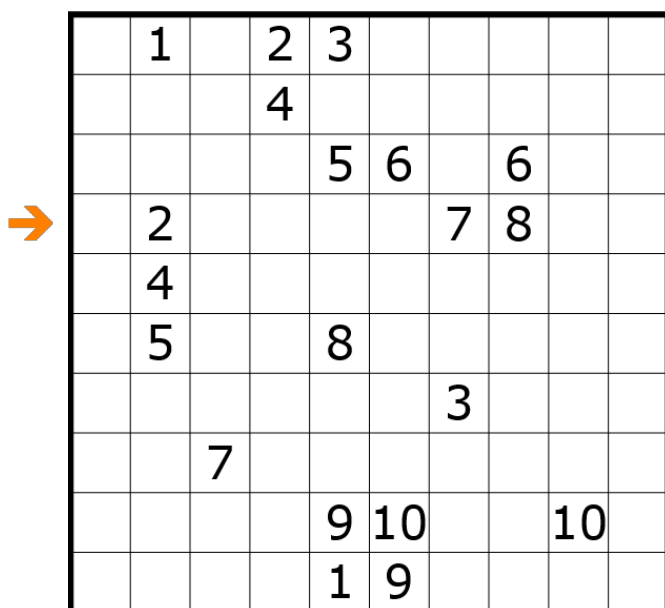
JAPANESE SUMS

Place digits **1-7** into some cells such that no digit is repeated within a row or column. Clues outside the grid indicate the sums of contiguous blocks of digits in the respective row or column. Blocks have to be separated by at least one empty cell.

TOUCHING PENTOMINOS

Place **all** given pentominos in the grid. The pentominos may be rotated and/or mirrored, but can only **touch** each other **diagonally**. **All** points where two pentominos touch are indicated by a black dot.

SLITHERLINK

Draw a single closed loop into the grid by connecting the dots. The loop may not touch itself, not even diagonally. The numbers in the cells indicate how many parts of the loop are directly beside, under or above the number.
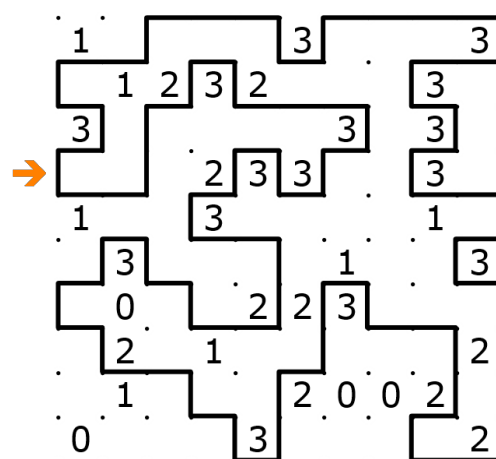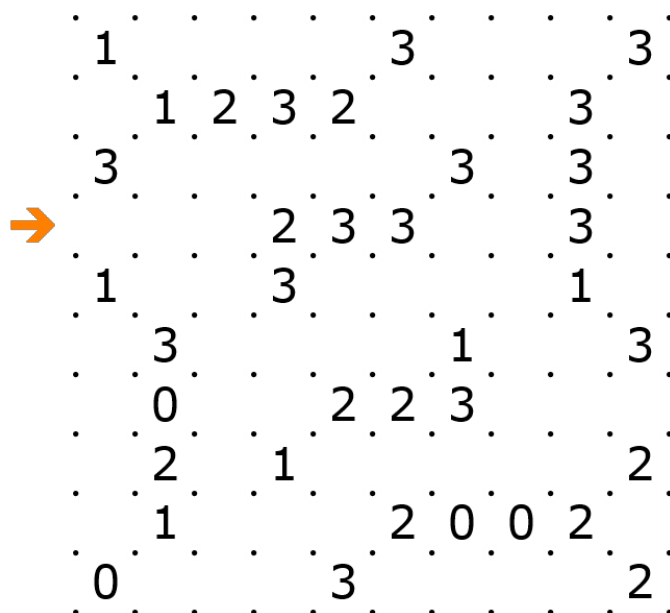
➔ | I | I | O | O | I | O | I | I | O | O |

FILLOMINO

Divide the grid into regions of horizontally and/or vertically connected cells. Every digit in the grid indicates the number of cells within that region. Regions containing the same number of cells may touch each other only diagonally. A region may contain none, one, or more of the given digits.
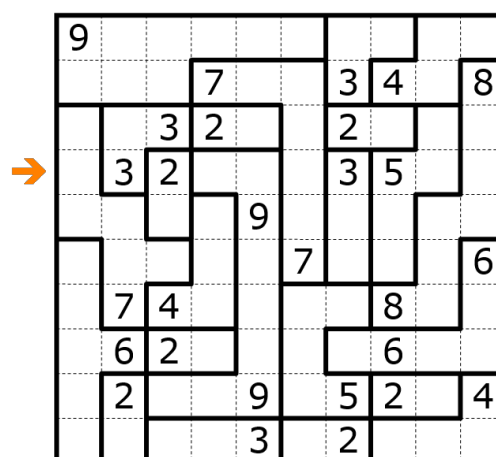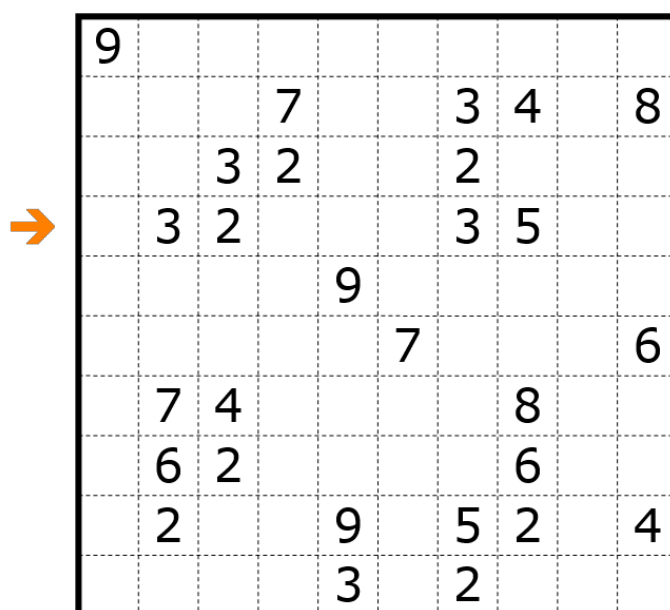
➔ | 7 | 3 | 2 | 9 | 9 | 7 | 3 | 5 | 5 | 8 |

PENTOMINO - REGIONS

Place **all** of the given pentominos in the grid, such that they don't touch each other, not even diagonally. Pentominos may be rotated and/or mirrored Each bold outlined region contains **exactly one** pentomino.
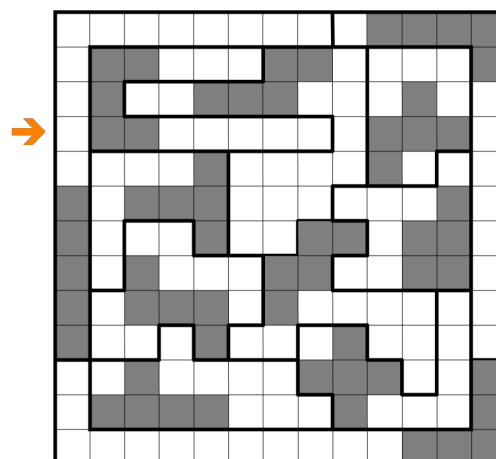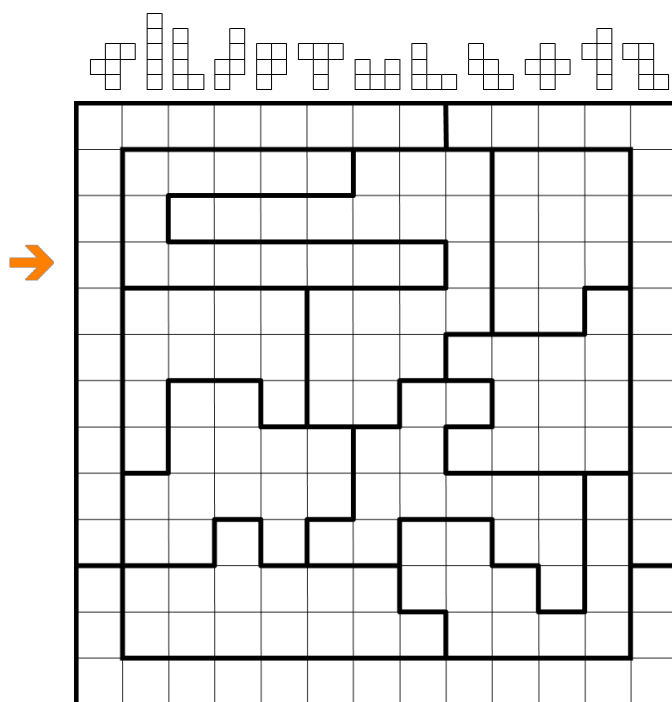
| - | U | U | - | - | - | - | - | - | - | F | F | F | - |

HEYAWACKY

Blacken some cells, that cannot touch each other horizontally or vertically, such that all remaining white cells form a single group of connected cells. Each series of white cells may not cross more than one region border. Clues indicate the number of blackened cells in that bold outlined region. Cells with clues may be blackened.
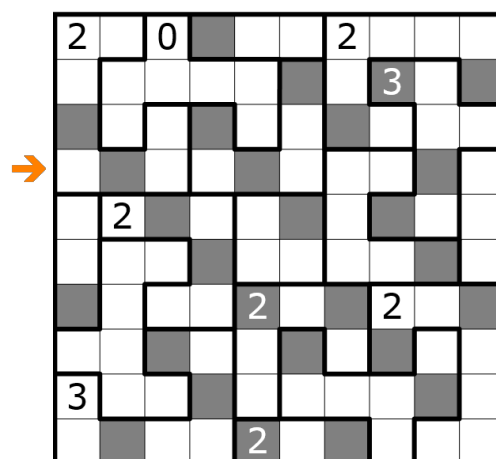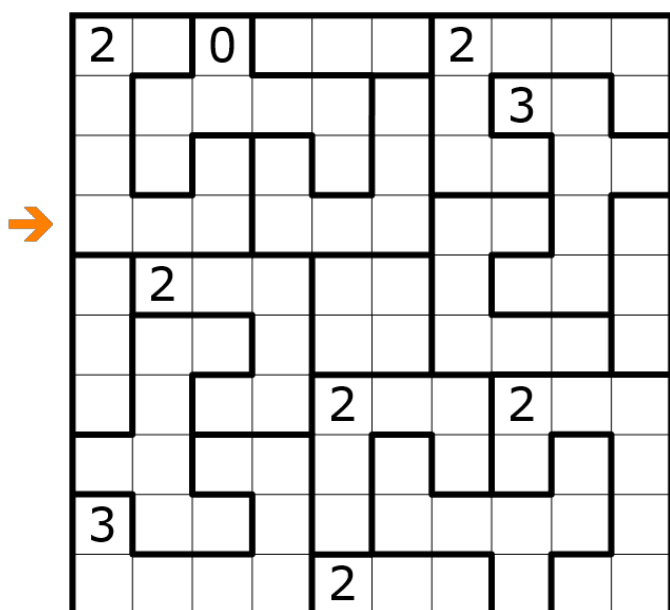
| - | B | - | - | B | - | - | - | B | - |

BLACKOUT DOMINO

Place the given set of dominos in the grid, such that orthogonal neighbouring cells from different dominos contain equal values. Blacken cells where dominos are omitted, provided that black cells may touch each other only diagonally, and can not be placed along the border of the grid.
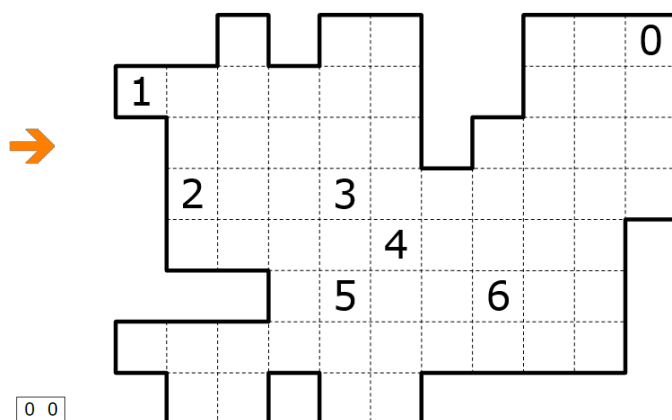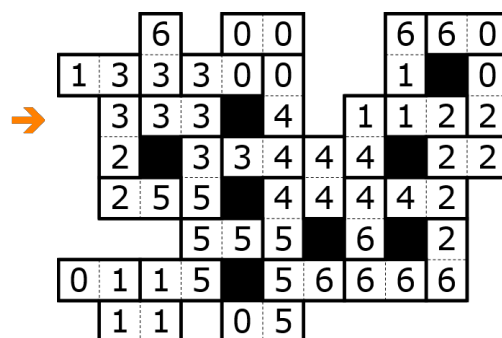
CAVE

Draw a single closed loop over the grid lines, enclosing all numbers. The clues indicate how many cells inside the loop can be seen from that cell (horizontally and vertically), including the cell itself.
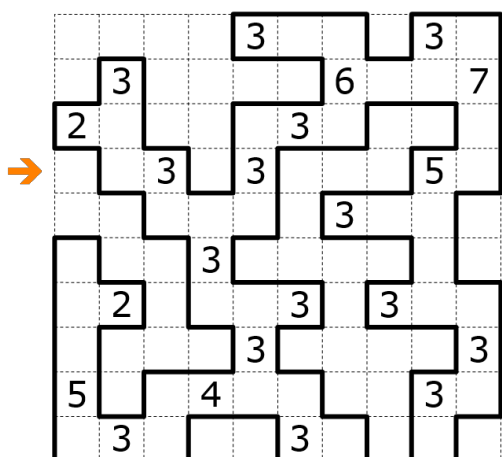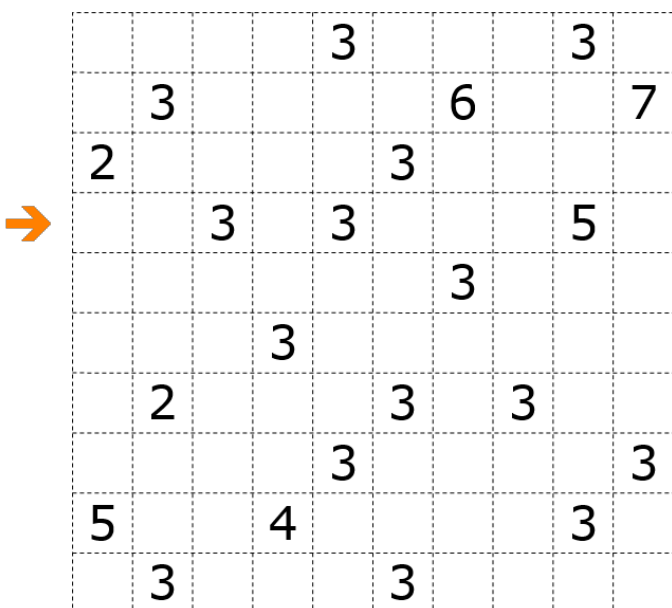
MAGNETS

Place magnets into some of the 1x2 blocks with each magnet having a positive and a negative pole. Cells containing magnet halves of the same polarity cannot be adjacent. Clues outside the grid indicate the number of positive and negative poles in the corresponding row or column.

HIDATO - HOLES

Place all numbers **1-72** exactly once in the grid. Starting at 1 you can reach every consecutive number by travelling one cell in a horizontal, vertical or diagonal direction. Numbers can't be placed in black cells.

SNAKE

Find a snake in the grid whose head and tail are indicated by grey cells. The snake wriggles horizontally and vertically and never touches itself, not even diagonally. The clues outside the grid indicate the number of cells occupied by the snake in the respective row or column.
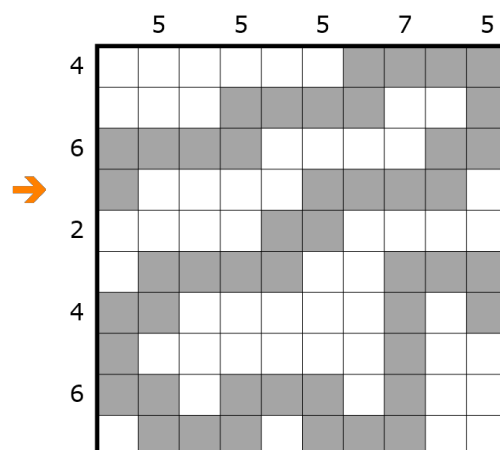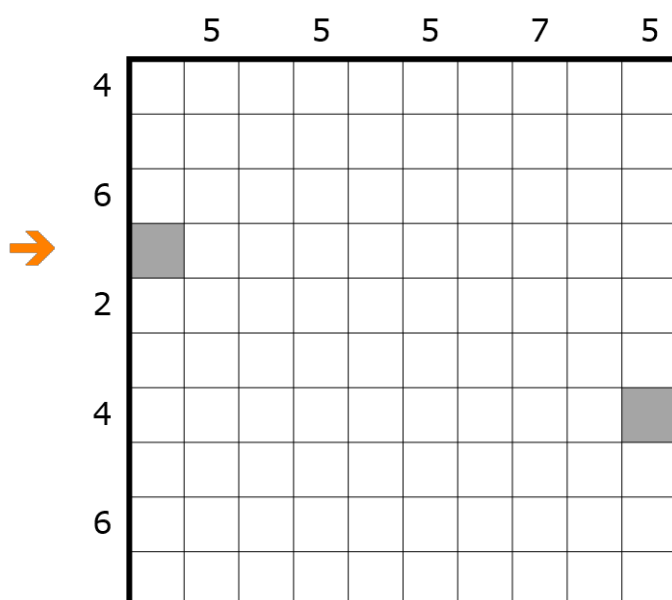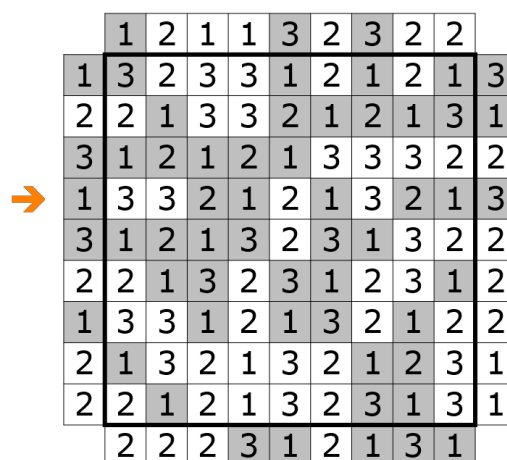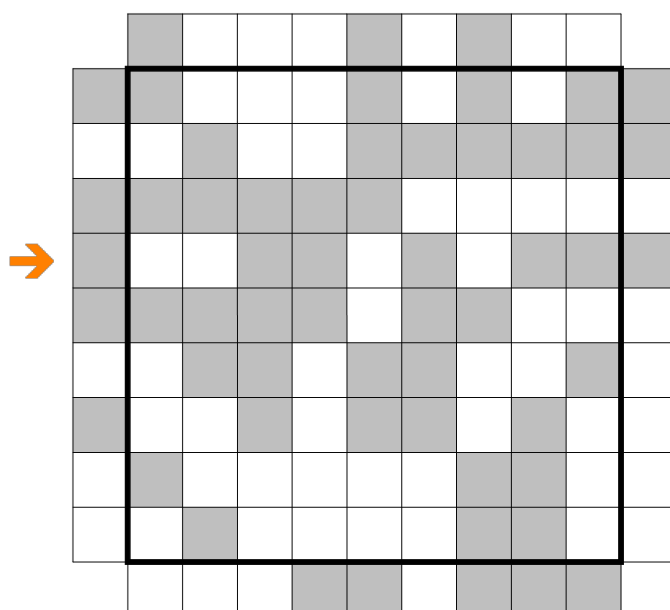

→	S	-	-	-	-	S	S	S	S	-

NEIGHBOURS - SKYSCRAPERS

Place digits 1-3 three times each in each row and column within the bold outlined 9x9 region. Grey cells have no adjacent cells containing the same digit. White cells have at least one adjacent cell containing the same digit. All grey cells are given.

Each digit within the 9x9 region represents a skyscraper of that height. Digits outside this region indicate how many buildings can be seen from that direction, where higher buildings block the view of lower buildings.

→	1	3	3	2	1	2	1	3	2	1	3