Qualification for the

Dutch
Puzzle and Sudoku
championships 2023

Friday 17th until Monday 20th of March 2023

Instruction booklet

OPTIMIZE YOUR WORLD

Dear participants to the

Dutch Puzzle and Sudoku Championships 2023,

These Championships are being organised by the Dutch Puzzle Association **WCPN** (World Class Puzzles from the Netherlands) in association with **ORTEC**, one of the world leaders in optimization software and analytics solutions.

Like last year, the championships will consist of two parts:

- An online qualification, for both championships, that will be held from Friday March 17th 12:00 CET (noon) until Monday March 20th 11:59 CET (noon).
- A live final that will be held on Saturday April 15th 2023, at the office of ORTEC. The address of ORTEC being: Houtsingel 5, 2719 EA Zoetermeer, the Netherlands.

This Instruction Booklet is only applicable for the qualification round. About two weeks prior to the finals a separate Instruction Booklet for the finals will be published.

In this Instruction Booklet you will find all necessary information about the online qualification for the championships; amongst which the programme, the rules and regulations and example puzzles and sudokus, including examples of solutions. You will also find the number of points that can be rewarded for each puzzle, such that you can decide in advance which puzzles you want to solve.

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

On behalf of WCPN,

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P.S. We would like to thank all puzzle authors; Bram de Laat, Arvid Baars, Saskia Benedictus en Richard Stolk; thank you!

We also give thanks to Karin Griffioen, Eline Werkman and Timon van Dijk for their technical support (IT) and for their help in organising the championships!

Content

Overwiew of puzzles and points

OVERVIEW PUZZLE QUALIFICATIONS 2023

	Puzzle	Points
1.	Masyu	20
2.	Tents	25
3.	Country road	30
4.	Battleships	35
5.	Skyscrapers - sum	40
6.	Kurotto	45
7.	Renkatsu	45
8.	Kakurasu	50
9.	Kuroshiro	50
10.	Island	60
11.	Star battle	65
12.	Yajilin - regional	65
13.	Easy as ABS - relative	70
	total points	**600**

OVERVIEW SUDOKU QUALIFICATIONS 2023

	Sudoku	Points
1.	Classic	33
2.	Classic	50
3.	Classic	73
4.	Even	36
5.	Anti Clone	49
6.	XV	52
7.	S-Doku	57
8.	Anti Knight	66
9.	David and Goliath	74
10.	Numbered Rooms	110
	total points	**600**

*When you submit your solutions within the given time limit of 60 minutes, you will be rewarded **10 bonus points** for every full minute your solutions were received before the time limit exceeds. The time of receival, noted upon your solution form is binding.*

Pay attention: the number of points are an indication of the difficulty of the puzzles during the actual qualification. The difficulty of the puzzles in this booklet can deviate from these values!

The qualification rounds

The qualification consists of two rounds of 60 minutes each; one round for the Puzzle championship and one round for the Sudoku championship. Although the qualifications consists of two separte championships, and you are not obliged to take part in both, it is highly recommended that you do participate in both qualifications. The selection for the live finals will be based on the ranking of both qualification rounds. Hence, by participating in both rounds, your chances for being invited to the live finale will enhance.

Who can participate

Everyone who likes logical puzzles and sudokus can participate in the qualifications. During the qualification three categories of participants will be distinguished:
- members of the Dutch Puzzle Association WCPN
- participants from our sponsor ORTEC
- other interested people

After the online qualifications, the best participants from the categories of WCPN and ORTEC will be invited to participate in the live championships.

How to participate in the qualification

To participate you first have to register online on the website of the championships (nk.wcpn.nl or click here). Use your own name (don't use an alias) to register and submit answers.
If you took part in the qualifications last year, we recommend that you use the same account as last year. After the qualifications you will have access to your personal statistics, where you can compare your results to those of previous years (i.e. last year for now).

When you are registered you can choose your own time interval to participate in a round, anywhere between Friday March 17th 12:00 CET (noon) and Monday March 20th 11:59 CET (noon). Solutions submitted after closing won't be taken into account for the results. Be aware that a round runs for 60 minutes exactly, and can't be paused. Make sure that you choose a time interval in which you can solve the puzzles undisturbedly.

When you decide to start a qualification you go to the page "participate", in the menu on the right side of the championships' website. On that page you'll find a description of the next steps, that are also shortly explained below. Firstly you'll find here the booklets with the actual qualification puzzles. These are in a pdf-format, secured with a password. Make sure you have installed a program in which you can open and print a pdf file (e.g. Acrobat Reader).
As soon as you press the button "start puzzle qualification" or "start sudoku qualification", your 60 minutes begin to count down. You are directed to the page with the submission form, where you will find your password for the pdf. After these steps, you can print the puzzles and start solving.

Also keep your instruction booklet close at hand. This can be useful for examples of all puzzles and cluelines, and for the puzzle instructions.

How to submit your solutions?

On the "submit" page you will find the timer (at the bottom of the page) that counts down the 60 minutes, and you can fill in the answer codes for each solved puzzle. You submit your answers by pressing the "submit" button. This button is located both above as well as below the asnwer form; it doesn't matter which of the two buttons you press.

You can submit your answers **as often as you like** during the 60 minutes and you can also correct your previous answers. The system keeps the last answers that you submit so you don't need to fill in answers again. **The last submitted answer form** is the one that counts, even if you have corrected a right answer into a wrong one. The system doesn't accept anymore answers once the 60 minutes have passed. So keep an eye on the remaining time.

Answer form:

Submit

1. Masyu: 4244442644
2. Tents: 1616261615   ❓ Expected: 10 digits between 0 and 9
3. Country road: 6846448864
4. Battleships: 3149222244
5. Skyscrapers - sum:
6. Kurotto:
7. Renkatsu:
8. Kakurasu:
9. Kuroshiro:
10. Island:
11. Star Battle:
12. Yajilin - regional:
13. Easy as ABC

Submit

Timer:

00:04:36
hours   minutes   seconds

Be aware that changeing from **English** to **Dutch** during submission (i.e., when you are in the submission page) will delete all your previous data. Therefore make your decision for your preferred language **before you press the start button**!

Cluelines

For each puzzle and sudoku you will need to submit cluelines, that are described further on in this booklet. For many puzzles this implies copying the cell values of two rows in the corresponding cells on the answer form. For some puzzles a certain value for each row need to be submitted.

On the previous page a screenshot is given of a filled in answer form. When you hover your mouse over the question mark a text will appear telling you what kind of code is expected (for example: expected: 10 digits between 0 and 9).

What's at stake

At stake is qualification for the live finals of the Dutch Puzzle and Sudoku Championships 2023.

During the live finals there will be prizes for the top three participants in both categories WCPN and ORTEC. To be crowned Dutch Puzzle Champion or Dutch Sudoku Champion, you need to have the Dutch Nationality, and be a member of the Dutch Puzzle Association WCPN.

Apart from crowning the Dutch Champions, the championships also acts as part of the qualification for the World Puzzle and Sudoku Championships 2023, that will be held from 15-22 October 2023 in Toronto, Canada. All participants for the Dutch team in the World Puzzle and Sudoku Championships need to have the Dutch Nationality and be a member of WCPN. Furthermore we need to mention that participation in the World Championships is at your own expence.

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 people. In an online tournament we obviously cannot check the participants' behaviour. 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.

Qualification

After the qualification results will be published for each championship. The best participants of the categories WCPN and ORTEC will be invited for the finals, which will be held on Saturday the 15th of April at ORTEC; the address being: Houtsingel 5, 2719 EA Zoetermeer, the Netherlands.

The total number of participants in the final will be approximately 50 (WCPN and ORTEC combined). The exact ratio and amounts will be determined after the qualifications by the organising committee. The three best participants in the categories WCPN and ORTEC during the previous Dutch Championships in 2022 will be exempt from qualification, but are of course welcome to take part just for fun (hors concours).

Qualification result

The qualification result will be determined on the basis of the number of points that a participant has scored during the period of 60 minutes. In case a participant solves all puzzles correctly within the 60 minutes he/she will receive a bonus of 10 points for each full minute that he/she has submitted before the end of the 60 minutes. In case of a draw, the participant that has sent in his or her results in the shorter amount of time, wins over someone that needed more time. The time of receival, noted upon your solution form is binding.

Printing of puzzles

The puzzles can be downloaded from the "participate" page. The pdf's are secured with a password, that you will receive after you press the "start puzzle/sudoku qualification" button. You are directed to the submission page, where you will find your password. Your time will already start at that moment.
You need to print the puzzles yourself. Be sure your printer is on and ready to print. (Hint: start solving directly after printing the first page or solve the puzzles digitally if you have a suitable device!).

Questions

If you have any questions or remarks about (the qualifiction for) the Dutch Puzzle and Sudoku Championship 2023, or about the contents of this Instruction Booklet and/or the puzzles/sudokus it contains, you can sent an email to: wcpn.pzzl@gmail.com.

➡ For each **Sudoku** a code needs to be submitted in the answer form <u>for two solved rows</u>. In the puzzle booklets, the corresponding rows are indicated by an orange arrow.

Soduku

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

row 4

row 8

- *give the <u>digits</u> of all the cells in the indicated rows.*

➡ For each **Puzzle** a code needs to be submitted in the answer form for either <u>two solved rows</u> (in which case these rows are indicated by an orange arrow), or for <u>the whole grid</u> (in which case it is indicated that you should consider each row).

Below it is explained how the clueline(s) of each **puzzle** needs to be composed.
It makes no difference whether letters are capitalised or not.
Be aware: Both the given row numbers and the values are fictional!!!

1. **Masyu**

2	4	6	4	4	2	0	8	2	4

- *give the number of <u>90° angles</u> that the loop makes in each row.*

2. **Tents**

3	8	2	4	2	0	1	6	2	5

- *indicate for each row in which column you will find <u>the first tent</u>.*
- *pay attention: when there is <u>no tent</u> in a row, put down a zero (0).*

3. **Country road**

2	4	6	4	4	2	0	8	2	4

- *give the number of <u>90° angles</u> that the loop makes in each row.*

4. **Battleships**

3	3	0	6	1	4	0	0	2	7

- *indicate for each row in which column you will find <u>the first ship segment</u>.*
- *pay attention: when there is <u>no ship segment</u> in a row, put down a zero (0).*

5. **Skyscrapers - sum**

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

row 4

row 8

- *give the <u>digits</u> of all the cells in the indicated rows.*

6. **Kurotto**

B	B	W	W	W	B	B	B	W	W
W	B	B	W	B	W	W	W	B	B

row 4

row 6

- *indicate for each cell in the indicated rows whether the cell is black (<u>B for BLACK</u>) or white (<u>W for WHITE</u>).*

7. Renkatsu

| 2 | 3 | 1 | 1 | 2 | 1 | | | | | row 8 |
| 4 | 2 | 1 | 3 | | | | | | | row 10 |

- *give the <u>number of cells </u>between every pair of regional borders on the indicated rows.*
- *Pay attention: both cluelines may contain a different amount of clues!*

8. Kakurasu

| B | B | W | W | W | B | B | B | W | row 3 |
| W | B | B | W | B | W | W | W | B | row 7 |

- *indicate for each cell in the indicated rows whether the cell is black (<u>B for BLACK</u>) or white (<u>W for WHITE</u>).*

9. Kuroshiro

| 2 | 4 | 6 | 4 | 4 | 2 | 0 | 8 | 2 | 4 |

- *give the number of <u>90° angles</u> that the loop makes in each row.*

10. Island

| B | B | W | W | W | B | B | B | W | W | row 2 |
| W | B | B | W | B | W | W | W | B | B | row 4 |

- *indicate for each cell in the indicated rows whether the cell is black (<u>B for BLACK</u>) or white (<u>W for WHITE</u>).*

11. Star battle

| 0 | 2 | 6 | row 1 |
| 3 | 4 | 1 | row 7 |

- *Indicate the number of cells <u>before</u> the first star, in <u>between</u> both stars, and <u>behind</u> the last star. Hence, for each indicated row three digits are to be submitted.*

12. Yajilin - regional

| 2 | 4 | 6 | 4 | 4 | 2 | 0 | 8 | 2 | 4 |

- *give the number of <u>90° angles</u> that the loop makes in each row.*

13. Easy as ABC

| A | X | B | X | C | D | E | row 1 |
| X | A | C | D | X | E | B | row 4 |

- *give the <u>lettters</u> of all the cells in the indicated rows.*
- *An empty cell will give an <u>X</u>.*

MASYU

Draw a single closed loop through all circles in the grid by travelling horizontally or vertically. The loop must make a 90° turn in all black circles and go straight through both neighbouring cells before turning again. The loop must go straight through all white circles and make a 90° turn in at least one of the neighbouring cells.
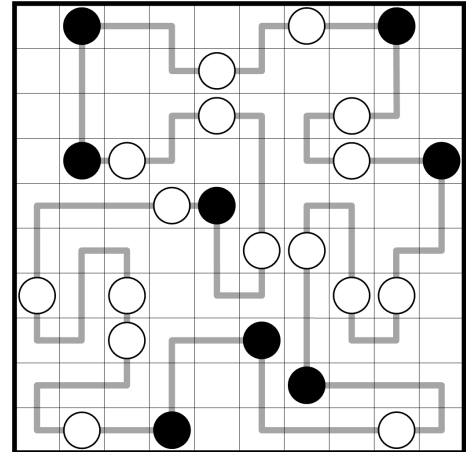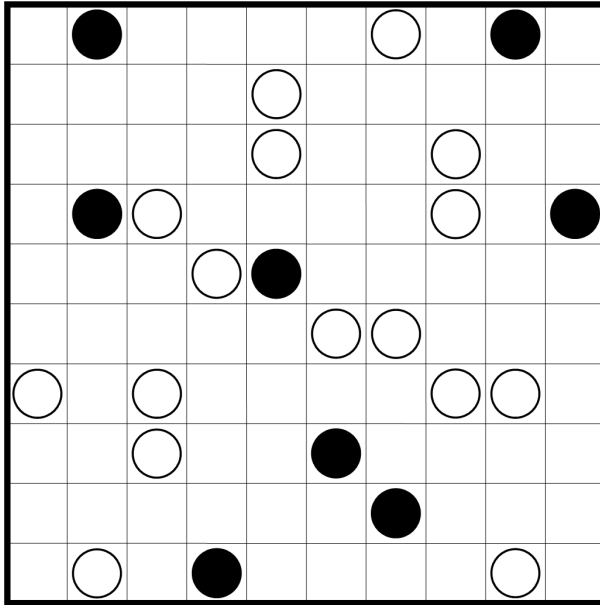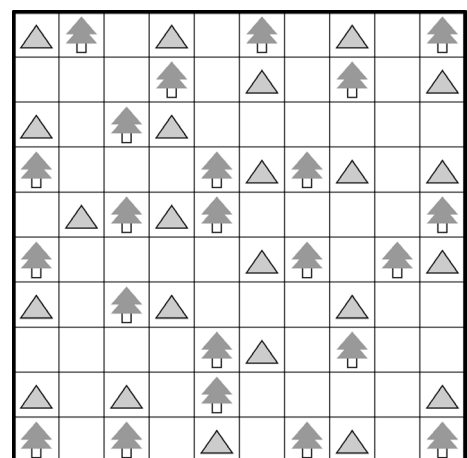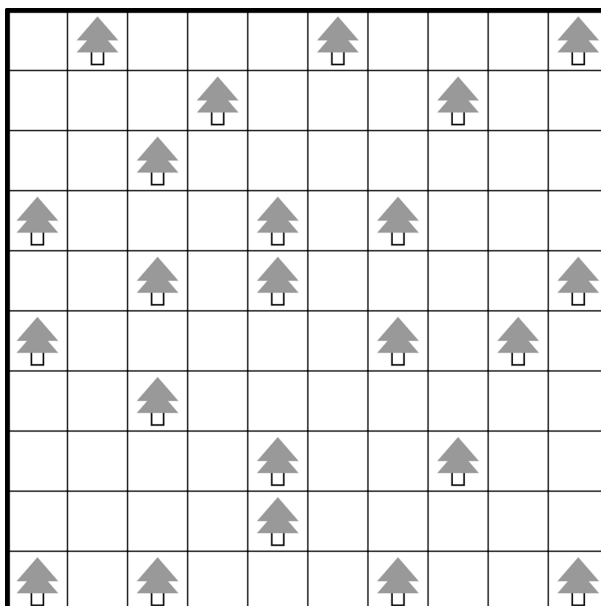
4	2	4	4	4	4	2	6	4	4

give the number of 90° angles that the loop makes in each row.

TENTS

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 the corresponding row or column.

penpa-link: https://tinyurl.com/2mk5ezf4

1	6	1	6	2	6	1	6	1	5

indicate for each row in which column you will find the first tent (0 for empty row).

COUNTRY ROAD

Draw a single closed loop in the grid that connects the centers of adjacent cells, and that doesn't cross or overlap itself. The loop travels through each bold outlined region exactly once, where a clue in a region indicates how many cells of that region are visited by the loop. Two neighbouring unvisited cells can't belong to different regions.
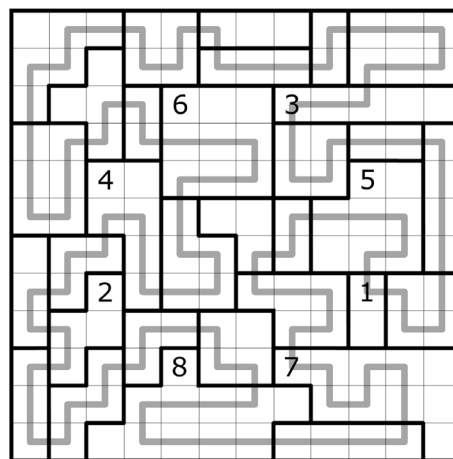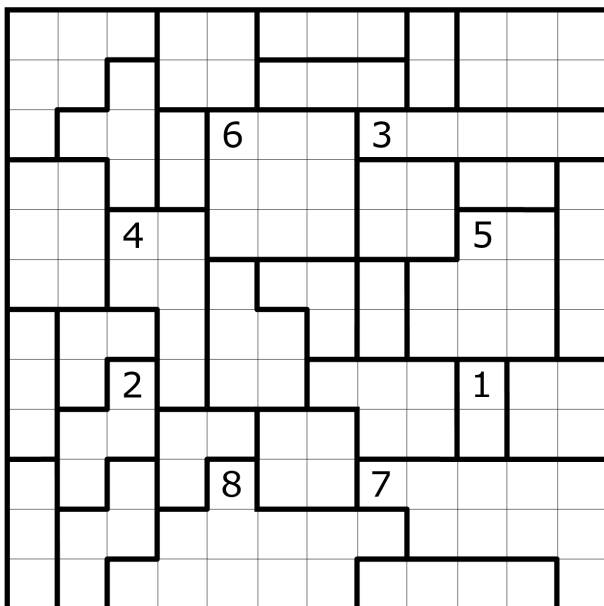
| 6 | 8 | 4 | 6 | 4 | 6 | 8 | 8 | 8 | 10 | 6 | 4 |

give the number of 90° angles that the loop makes in each row.

BATTLESHIPS

Place the given fleet in the grid, with every ship segment filling a single cell. Ships are placed horizontally or vertically, and do not touch each other, not even diagonally. Cells with water remain empty. Clues outside the grid indicate how many cells in the corresponding row or column are occupied by ship segments.

penpa-link: https://tinyurl.com/2hlvj68s
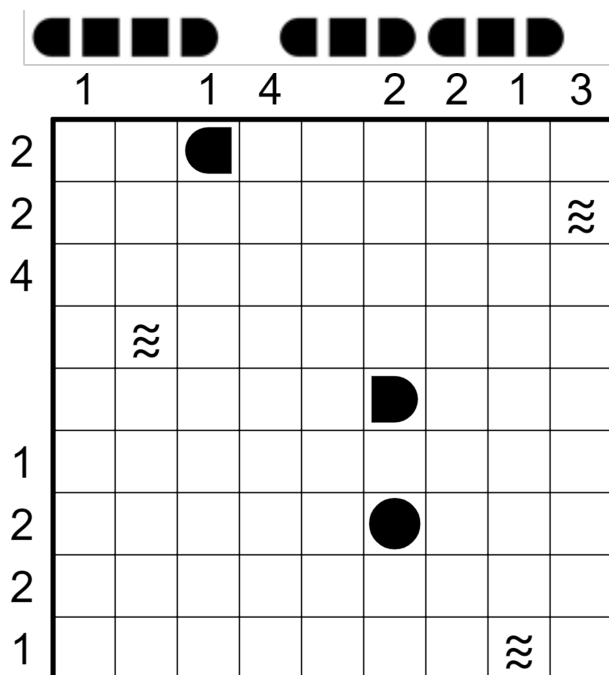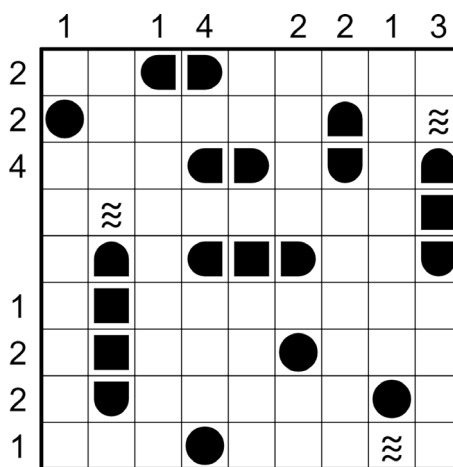
| 3 | 1 | 4 | 9 | 2 | 2 | 2 | 2 | 4 |

indicate for each row in which column you will find the first ship segment (0 for empty row).

SKYSCRAPERS - SUM

Place the digits **1-6** (qualification puzzle: 1-7) exactly once in each row and column. Each digit represents a skyscraper of the corresponding height. Clues outside the grid indicate the sum of the visible buildings from that direction, where higher buildings block the view of lower buildings.

➡ give the **digits** of all the cells in the indicated rows.

KUROTTO

Shade some of the empty cells, where shaded cells may form connected areas. A number in a cell indicates the sum of the sizes of **all** regions that are horizontally or vertically connected to that cell.

➡ | B | B | W | W | W | B | B | B | W | B | B |

indicate for each cell in the indicated rows whether the cell is black (B for BLACK) or white (W for WHITE).

RENKATSU

Divide the grid into regions, such that each region contains the numbers 1 up to and including N, where N is the amount of cells in that region.

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

penpa-link: https://tinyurl.com/2ow54ooh

→ | 3 | 2 | 2 | 3 |

give the number of cells between every pair of regional borders on the indicated rows.

KAKURASU

Shade some cells, where numbers left to and above the grid indicate the sum of the column- and row-numbers respectively (the digits in the circles under and to the right of the grid) of all shaded cells in the corresponding row or column.
If for example the 1st, 2nd and 4th cells in a row are shaded, the clue to the left of that row must be 8, because 1+3+4=8.

penpa-link: https://tinyurl.com/2oc34vny

→ | B | W | W | B | W | W | B | B | W |

indicate for each cell in the indicated rows whether the cell is black (B for BLACK) or white (W for WHITE).

KUROSHIRO

Draw a single closed loop through all circles in the grid by travelling horizontally or vertically, such that there are no 90° turns between two equally coloured circles, and there is exactly one 90° turn between two differently coloured circles.
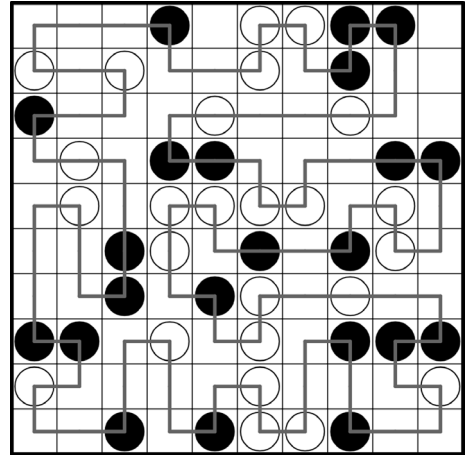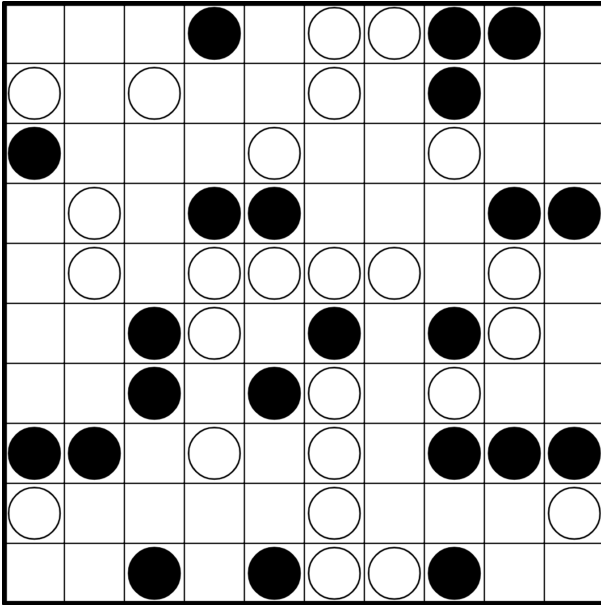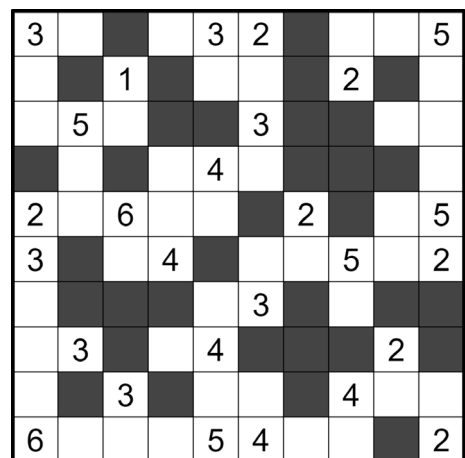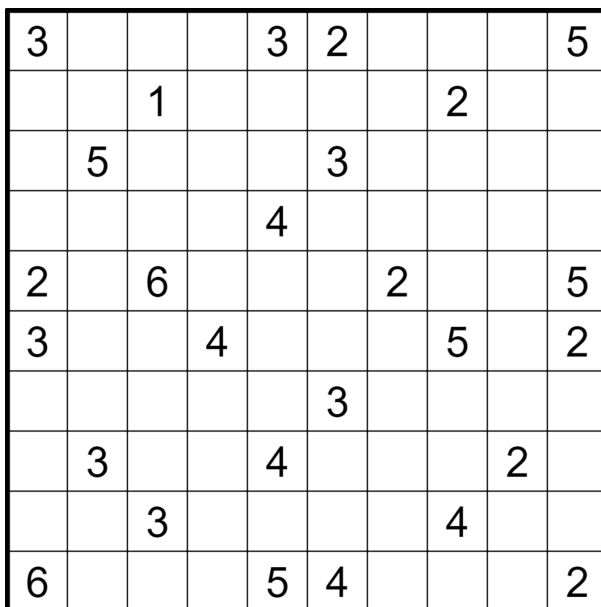

| 6 | 6 | 4 | 6 | 8 | 4 | 6 | 10 | 6 | 8 |

give the number of 90° angles that the loop makes in each row.

ISLAND

Shade some cells, such that all remaining white cells forms a single connected area (the island). Each clue is part of the island, and indicates the number of white cells that can be reached from that cell, where numbered cells block the passage.

penpa-link: https://tinyurl.com/2hcapx4u

| B | W | B | W | W | W | B | B | B | W |

indicate for each cell in the indicated rows whether the cell is black (B for BLACK) or white (W for WHITE).

STAR BATTLE

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.
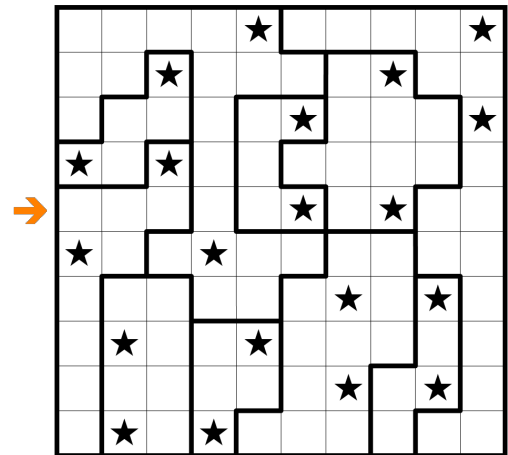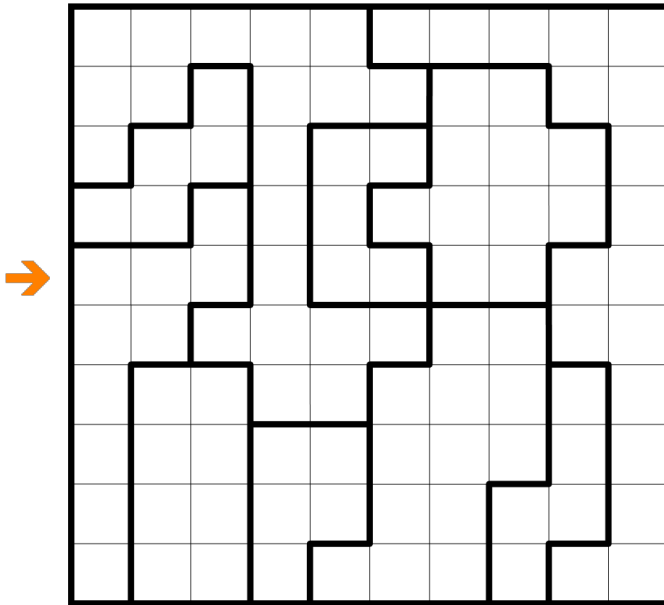
➔ | 5 | 1 | 2 |

Indicate for the indicated rows the number of cells before the first star, in between both stars, and behind the last star.

YAJILIN - REGIONAL

Shade some cells such that a clue in bold outlined region indicates exactly the corresponding number of shaded cells in that region. Shaded cells may touch each other only diagonally, and clue cells may be shaded too.
Furthermore, draw a single closed loop through all cells of the grid by connecting the centers of adjacent cells. The loop doesn't cross or overlap itself.

penpa-link: https://tinyurl.com/2fqg9rbq
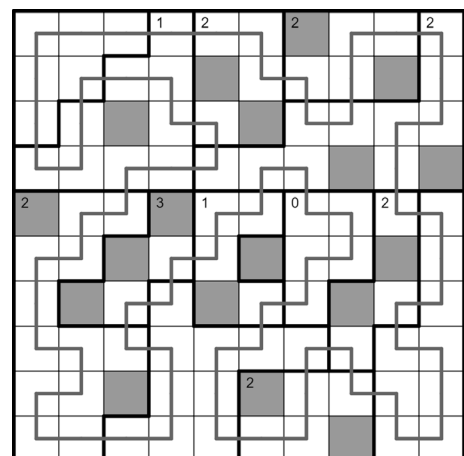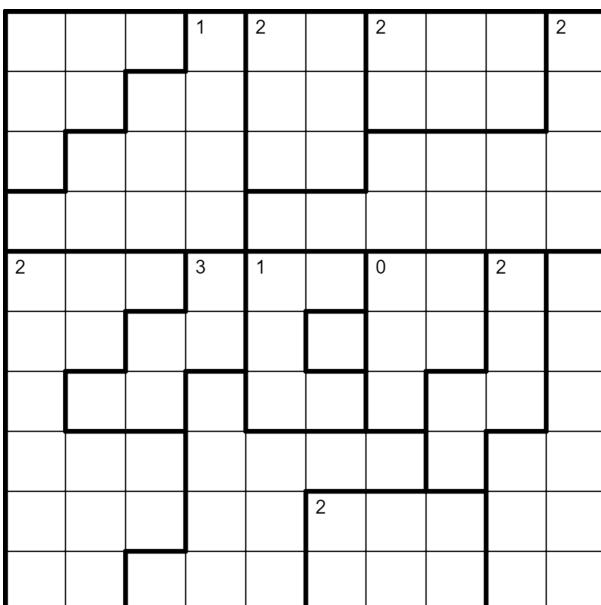
➔ | 4 | 4 | 6 | 6 | 8 | 6 | 6 | 10 | 4 | 6 |

give the number of 90° angles that the loop makes in each row.

EASY AS ABC - RELATIVELY   **PUZZLE 13; 70 POINTS**

Place the letters **A-D** (qualification puzzle: A-E) exactly once in each row and column. Some cells remain empty. Clues outside the grid indicate the relative position of the corresponding letter in that row or column in that direction.

penpa-link: https://tinyurl.com/2g8h8juw

give the lettters of all the cells in the indicated rows (X for empty cell).

SUDOKU - CLASSIC

Place the digits 1-9 exactly once in each row, column and 3x3 block.

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

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

6	8	2	4	1	7	9	3	5

SUDOKU - EVEN

Place the digits 1-9 exactly once in each row, column and 3x3 block. Grey cells contain even digits.

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

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

3	5	6	4	7	8	9	1	2

SUDOKU - ANTI CLONE

Place the digits 1-9 exactly once in each row, column and 3x3 block. Grey areas with identical shapes (where rotated and/or mirrored shapes are considered to be identical) together form a single region, within which **all** digits must be **different**.

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

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

SUDOKU - XV

Place the digits 1-9 exactly once in each row, column 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**.

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

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

S-DOKU

Place the digits 1-9 exactly once in each row, column and 3x3 block. The three rows and three columns of three 3x3 blocks contain each nine grey cells in which the digits 1-9 have to appear exactly once too.

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

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

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

SUDOKU - ANTI KNIGHT

Place the digits 1-9 exactly once in each row, column and 3x3 block. Two cells that can be reached by a (chess) knight step can **not contain the same digit**.

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

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

SUDOKU - DAVID AND GOLIATH

PUZZLE 9; 74 POINTS

Place the digits 1-9 exactly once in each row, column and 3x3 block. Each marked pair of digits contains exactly one large (5-9) and one small (1-5) digit.

SUDOKU - NUMBERED ROOMS

PUZZLE 10; 110 POINTS

Place the digits 1-9 exactly once in each row, column and 3x3 block. Clues outside the grid indicate the digit which has to be placed in the Nth cell in the corresponding direction, where N is the digit placed in the first cell in that direction.