



WCPN Dutch Puzzle and Sudoku Championships 2018

Saturday June 9th, 2018

Instruction booklet

Welcome to the Dutch Puzzle and Sudoku Championships 2018! The championships are organized by the Dutch puzzle association (WCPN) and hosted by ORTEC. ORTEC is one of the world's leaders in optimization software and analytics solutions.

In this booklet you will find all sorts of information about the championships. The tentative 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 what puzzles you want to solve.

Reading this booklet will prepare you for a nice day full of puzzles.

Have fun!

WCPN
René Gilhuijs
Richard Stolk
Hns Eendebak

ORTEC
OPTIMIZE YOUR WORLD

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Tentative schedule

You are expected between 09.00 and 09.30

10.00 - 10.20 Round 1: Sudoku classic

10.30 - 10.55 Round 2: Puzzle classic

11.15 - 12.15 Round 3: Sudoku miscellaneous

12.15 - 13.00 Lunch

13.05 - 14.00 Round 4: Puzzle miscellaneous

14.15 - 14.27 Round 5: Sudoku sprint

14.40 - 14.55 Round 6: Puzzle sprint

14.55 - 15.30 Tea and coffee

15.30 - 15.50 Semi-finals sudoku

16.00 - 16.20 Semi-finals puzzle

16.30 - 16.50 Final sudoku

17.00 - 17.20 Final puzzle

17.30 - 18.30 Awards ceremony, wine, beer, bitterballs

ORTEC will take care of tea, coffee and water all day, lunch, and the drinks and snacks afterwards.

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Overview of the Sudoku Championships

| Round | | Puzzle | Points |
|---------------------------------------|---|--------------------------|---------------|
| Round 1 - Classic 20 minutes | 1 | Classic | 25 |
| | 2 | Classic | 45 |
| | 3 | Classic | 75 |
| | 4 | Classic | 55 |
| | | | 200 |
| Round 3 - Miscellaneous 60 minutes | 1 | Between 1 and 9 | 50 |
| | 2 | XV | 45 |
| | 3 | Even sandwich | 90 |
| | 4 | Greater than consecutive | 75 |
| | 5 | Scattered | 45 |
| | 6 | All odd or even | 50 |
| | 7 | Diagonal | 80 |
| | 8 | Windoku | 65 |
| | 9 | Max Ascending | 100 |
| | | | 600 |
| Round 5 - Sprint 12 minutes | 1 | Relay | 125 |
| SF 8 + 6 + 4 minutes | 1 | Classic | |
| | 2 | Renban | |
| | 3 | Mathrax | |
| F 8 + 6 + 4 minutes | 1 | Classic | |
| | 2 | Non Consecutive | |
| | 3 | Neighbours | |

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Overview of the Puzzle Championships

| Round | | Puzzle | Points |
|---------------------------------------|---|-----------------------|---------------|
| Round 2 - classic 25 minutes | 1 | Loop | 20 |
| | 2 | Rectangles | 20 |
| | 3 | Domino | 35 |
| | 4 | No four in a row | 50 |
| | 5 | Double block | 65 |
| | 6 | Tents | 60 |
| | | 250 | |
| Round 4 - miscellaneous 55 minutes | 1 | Just words | 35 |
| | 2 | Easy as ABCDEF | 100 |
| | 3 | Straight lines | 100 |
| | 4 | Battleships - penta | 90 |
| | 5 | Dominion | 70 |
| | 6 | Animal planet | 60 |
| | 7 | Creek | 55 |
| | 8 | Troika - Bosnian road | 40 |
| | | 550 | |
| Round 6 - sprint 15 minutes | 1 | Neighbours - relay | 150 |
| SF 8 + 6 + 4 minutes | 1 | Kakuro | |
| | 2 | Corral | |
| | 3 | Regional Yajilin | |
| F 8 + 6 + 4 minutes | 1 | Tapa | |
| | 2 | Star battle | |
| | 3 | Japanese square plus | |

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Rules

These are the instructions of the WCPN Dutch Puzzle and Sudoku Championships 2018. Any questions related to these instructions can be discussed in the message board on the site of WCPN: www.wcpn.nl.

Competition Hall Rules

1. Each competitor must sit at their pre-allocated desk to take part in the preliminary rounds. They should ensure that they are at their desk ready for the start of each round. Late arrivals may not be permitted to take part in a round.
 2. Prior to the start of each round competitors should clearly write their name and reference number on the front of their booklet. Competitors should not open their booklet.
 3. Once the signal to start a round is given competitors may open their booklet and begin solving the puzzles.
 4. During each round competitors must remain silent, unless declaring completion of a round.
 5. If declaring a round complete, close your booklet, clearly state 'finished' and raise your arm with the booklet in your hand. Keep the booklet raised until your booklet has been collected.
 6. Competitors that complete a round with more than five minutes left will be allowed to quietly leave the competition hall. Competitors that complete a round with five minutes or less left must remain seated, so as not to cause unnecessary disruption to fellow competitors.
 7. If any competitor needs to leave the competition hall prior to the end of the round, they will not be allowed to take any further part in that round.
 8. Once the signal to finish a round is given, competitors must immediately stop solving, close their booklet, put their pen/pencil down and raise the booklet in the air. All competitors must remain seated until all booklets have been collected.
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9. Puzzles can be completed in any order. (Except the puzzles in the play-offs (semi-final and final)). The points value of a puzzle is an indication of its anticipated difficulty based on the results of test solvers. Your individual solving experience may therefore differ.

10. If during solving you believe there is a problem with any puzzle, leave that puzzle and continue with another. This will be investigated upon completion of the round.

Permitted items

11. Permitted items which may be taken into the competition hall are: pens, pencils, erasers, rulers, instruction booklets (optionally annotated with notes regarding puzzle instructions and preparation notes) and blank paper. Drinks and snacks will also be allowed as long as they do not disturb other competitors (by sound or smell).

12. It is forbidden to use electronic devices in the competition hall, such as music players and headphones of any type, calculators, camera's, recording devices and mobile phones. Mobile phones have to be turned off.

Scoring and Queries

13. Points will be awarded only for 100% correctly solved puzzles. Unless explicitly indicated otherwise in this instruction booklet, there will be no partial credit. Only in case this is explicitly indicated in this instruction booklet points can be subtracted in case of a wrong answer.

14. Ten bonus points will be awarded for each full minute remaining to any competitor who correctly solves every puzzle in a round.

15. Booklets marked with the score will be returned to the competitor. In the event of any query once a booklet has been marked, the query must be raised as soon as possible with the jury between rounds or after the last round.

16. The decision of the jury (Richard Stolk and Hns Eendebak) is final.

Breach of rules

17. Any breach of these rules may lead to a competitor being disqualified from a round or the competition, such at the discretion of the jury.

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Play-offs

18. The top four competitors from the preliminary rounds qualify for the play-offs.

19. The play-offs consist of two semi-finals and a final. For the semi-finals the number 1 from the preliminary rounds competes against the number 4 and the number 2 competes against the number 3. The winners of the semi-finals compete against each other in the final.

20. The play-offs are played on a podium on large sheets. Only one sheet per puzzle is available per competitor.

21. The play-offs consist of 3 puzzles per semi final/final. After completion of a puzzle the competitor must signal silently that he or she is finished and step back. A member of the jury or someone appointed by the jury will immediately check the result. If the puzzle is correctly solved the competitor may then start on the next puzzle. If the solution is incorrect the competitor may attempt to solve the puzzle again. Only after solving the puzzle correctly may the competitor continue with the next puzzle.

22. The semi-final and the final will be played with a Fischer-clock. Competitors start with 8 minutes for the first puzzle. When that puzzle is solved, 6 extra minutes are rewarded to finish the second puzzle. When the second puzzle is solved, the competitor gets another 4 minutes to finish the last puzzle. The competitor who finishes all 3 puzzles first within this period of time is the winner of the semi final/final. If both competitors have not finished their puzzles within this period of time, the competitor with the most correctly solved puzzles wins. If both competitors have an equal amount of correctly solved puzzles they are allowed to finish the puzzle that they are currently solving. The winner is the competitor who correctly solves that puzzle first.

Qualification for the WSC and WPC

23. Three competitors qualify for the WPC 2018: both finalists and the semi-finalist with the highest ranking in the preliminary rounds.

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Round 1: Sudoku classic

1-4 SUDOKU - classic (25 + 45 + 75 + 55 points)

Place the digits 1-9 in each column, each row and in all nine 3x3 regions.

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

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

All puzzles of the sudoku championships 2018 are designed by Richard Stolk.

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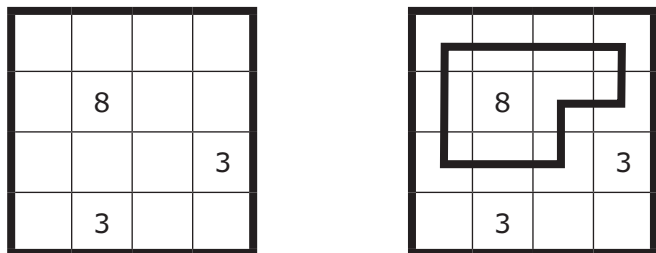
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Round 2: Puzzle classic

1 LOOP (20 points)

Draw a single non-intersecting loop that connects the centers of some of the grid cells. The numbered cells can not be passed through. The numbers in cells indicate how many of the eight surrounding cells are part of the loop.



2 RECTANGLES (max 20 points)

How many rectangles can be found in the drawing? A square is also a rectangle.

Score:

20 points for correct answer

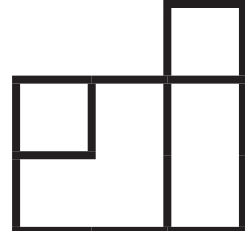
5 points for one rectangle less or more

0 points for two rectangles less or more

0 points for no answer

-10 points for three or more rectangles less or more

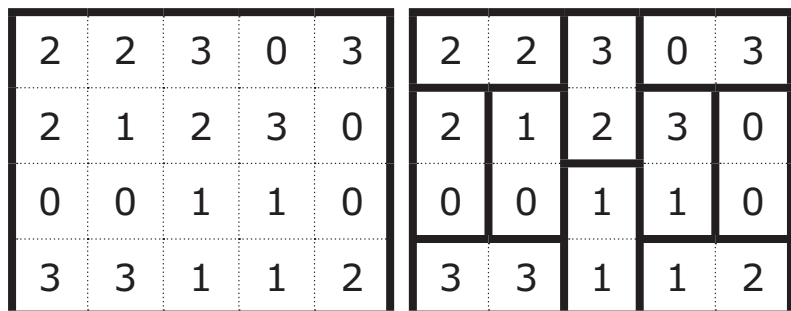
Example: 6 rectangles



3 DOMINO (35 points)

A complete set of dominoes is placed in the grid. The boundaries are all removed and the number of pips is indicated by digits. Draw the boundaries so that the complete set of dominoes is shown (example: 0-3).

00
01 11
02 12 22
03 13 23 33



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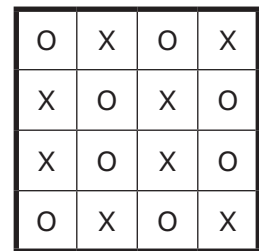
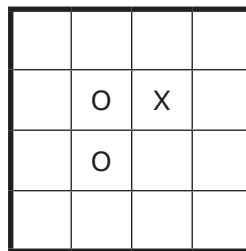
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Round 2: Puzzle classic

4 NO FOUR IN A ROW (50 points)

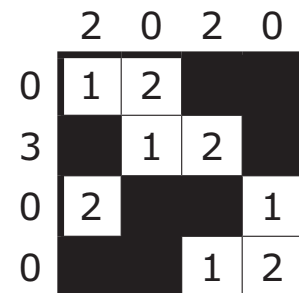
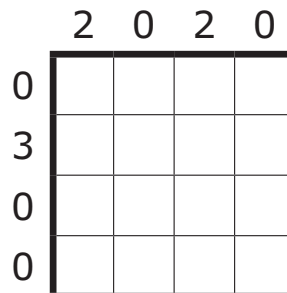
Fill every cell in the grid with 'X' or 'O' such that four consecutive 'X's and 'O's do not appear horizontally, vertically or diagonally.

Example (no three in a row)



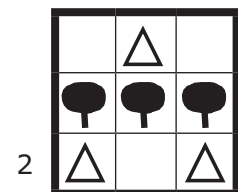
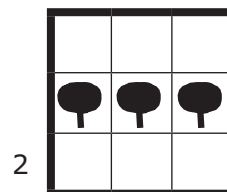
5 DOUBLE BLOCK (65 points)

Blacken exactly two cells in each row and each column of the grid. Place digits 1-5 (in the example: 1-2) on each row and column. Numbers outside the grid indicate the sum of the digits between the two black cells in the corresponding row or column.



6 TENTS (60 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. Numbers outside the grid indicate the number of tents in that row or column.



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Round 3: Sudoku miscellaneous

1 BETWEEN 1 AND 9 (50 points)

Place the digits 1-9 in each column, each row and in all 3x3 regions. Clues outside the grid indicate the sum of the digit(s) placed between the digits 1 and 9 in the corresponding row or column. (A zero outside the grid means that 1 and 9 are placed next to each other or right above each other.)

| | | | | | | | | | |
|----|---|----|----|---|---|----|----|----|----|
| | 6 | 33 | 13 | 8 | 8 | 35 | 25 | 11 | 12 |
| 13 | | | | | | | | | |
| 14 | | 1 | | 3 | | | | | |
| 19 | | | | | | | | | |
| 24 | | 5 | | 7 | | | | | |
| 19 | | | | | | | | | |
| 16 | | | | | | 2 | | 4 | |
| 20 | | | | | | | | | |
| 10 | | | | | | 6 | | 8 | |
| 20 | | | | | | | | | |

| | | | | | | | | | |
|----|---|----|----|---|---|----|----|----|----|
| | 6 | 33 | 13 | 8 | 8 | 35 | 25 | 11 | 12 |
| 13 | 7 | 2 | 3 | 4 | 6 | 9 | 8 | 5 | 1 |
| 14 | 8 | 1 | 4 | 3 | 2 | 5 | 9 | 6 | 7 |
| 19 | 9 | 6 | 5 | 8 | 1 | 7 | 4 | 2 | 3 |
| 24 | 4 | 5 | 9 | 7 | 3 | 8 | 6 | 1 | 2 |
| 19 | 2 | 8 | 6 | 1 | 5 | 4 | 3 | 7 | 9 |
| 16 | 1 | 3 | 7 | 6 | 9 | 2 | 5 | 4 | 8 |
| 20 | 5 | 4 | 1 | 2 | 8 | 3 | 7 | 9 | 6 |
| 10 | 3 | 7 | 2 | 9 | 4 | 6 | 1 | 8 | 5 |
| 20 | 6 | 9 | 8 | 5 | 7 | 1 | 2 | 3 | 4 |

2 XV (45 points)

Standard sudoku rules apply. X markers show **all** adjacent pairs of cells where the two values in those cells add up to 10, while V markers show **all** pairs where the two values sum to 5.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | V | | | | | |
| | 1 | | 2 | X | | | | |
| X | | 3 | | | | | X | |
| X | 4 | | 5 | X | X | | V | |
| | | | | | X | | V | |
| | X | | X | 3 | X | | 7 | |
| V | | | | | | | | |
| | X | | | 4 | | | 6 | V |
| | | | V | | | 5 | | |
| | X | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9 | 7 | 4 | V | 1 | 3 | 6 | 8 | 5 | 2 |
| 6 | 1 | 5 | 2 | X | 7 | 8 | 4 | 3 | 9 |
| 2 | X | 8 | 3 | 9 | 4 | 5 | X | 6 | 1 |
| 7 | 4 | 9 | 5 | 8 | 1 | 3 | V | 2 | 6 |
| X | | | | X | X | | | | |
| 3 | 5 | 6 | 7 | 2 | 9 | X | 1 | V | 4 |
| 1 | 2 | X | 8 | 4 | X | 6 | 3 | X | 9 |
| | | | | | | | | | |
| 5 | 3 | X | 7 | 8 | 9 | 4 | 2 | 6 | 1 |
| | | | | | X | | | | V |
| 8 | 6 | 2 | V | 3 | 1 | 7 | 5 | 9 | 4 |
| 4 | 9 | X | 1 | 6 | 5 | 2 | 7 | 8 | 3 |

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Round 3: Sudoku miscellaneous

3 EVEN SANDWICH (90 points)

Place the digits 1-9 in each column, each row and in all 3x3 regions. Clues outside the grid show **all** the digits that have even digits as neighbours on both sides in the corresponding row or column.

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

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

4 GREATER THAN CONSECUTIVE (75 points)

Standard sudoku rules apply. In **all** cases where the difference between two neighbouring digits is 1, there is a greater or less sign between those digits. Digits must be placed in accordance with the signs.

| | | | | | | | | |
|--|--|---|--|--|--|--|--|---|
| | | | | | | | | |
| | | < | | | | | | > |
| | | < | | | | | | > |
| | | < | | | | | | > |
| | | < | | | | | | > |
| | | < | | | | | | > |
| | | < | | | | | | > |
| | | < | | | | | | > |
| | | < | | | | | | > |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 2 | 6 | 4 | 1 | 8 | 3 | 7 | 5 | | | |
| 7 | 4 | < | 5 | 2 | 6 | 3 | 9 | > | 8 | 1 | |
| 3 | 1 | 8 | 5 | 9 | 7 | 2 | 4 | 6 | | | |
| 8 | < | 9 | 7 | 3 | < | 4 | 1 | 6 | > | 5 | 2 |
| 6 | 3 | 1 | 8 | 2 | 5 | 7 | 9 | 4 | | | |
| 4 | < | 5 | 2 | 6 | < | 7 | 9 | > | 8 | 1 | 3 |
| 1 | 7 | 4 | 9 | 3 | 6 | > | 5 | 2 | 8 | | |
| 2 | 8 | 3 | 7 | 5 | > | 4 | 1 | 6 | 9 | | |
| 5 | < | 6 | 9 | 1 | 8 | 2 | 4 | > | 3 | 7 | |

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Round 3: Sudoku miscellaneous

5 SCATTERED (45 points)

Place the digits 1-7 in each column, each row, each bold outlined region and in the grey cells.

| | | | | | | |
|---|---|--|---|--|---|---|
| | | | 2 | | | |
| | | | | | | |
| 3 | 7 | | | | 5 | 2 |
| 6 | | | | | | 3 |
| 4 | 3 | | | | 6 | 1 |
| | | | | | | |
| | | | 4 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 5 | 4 | 1 | 2 | 7 | 3 | 6 |
| 2 | 1 | 5 | 6 | 3 | 4 | 7 |
| 3 | 7 | 4 | 1 | 6 | 5 | 2 |
| 6 | 5 | 2 | 7 | 4 | 1 | 3 |
| 4 | 3 | 7 | 5 | 2 | 6 | 1 |
| 1 | 2 | 6 | 3 | 5 | 7 | 4 |
| 7 | 6 | 3 | 4 | 1 | 2 | 5 |

6 ALL ODD OR EVEN (50 points)

Place the digits 1-9 in each column, each row and in all nine 3x3 regions. The grey cells in each 3x3 region contain either all odd or all even digits.

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

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

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Round 3: Sudoku miscellaneous

7 DIAGONAL (80 points)

Place the digits 1-9 in each column, each row, in all nine 3x3 regions and on the two main diagonals.

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

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

8 WINDOKU (65 points)

Place the digits 1-9 in each column, each row, in all nine 3x3 regions and in the four grey coloured squares.

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

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

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Round 3: Sudoku miscellaneous

9 MAX ASCENDING (100 points)

Apply classic sudoku rules. Clues outside the grid indicate the length of the longest connected serie(s) of ascending digits in the corresponding direction.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 4 | 6 | 2 | 5 | | 5 | |
| 2 | | 1 | | | | | 5 |
| | | | 2 | | | | |
| 4 | | | | 3 | | | 6 |
| | | | | | 4 | | |
| | | | | | | 5 | 6 |
| | | | | | | 6 | |
| | | | | | | | 7 |
| | | | | | | | 6 |
| | 4 | 3 | | 3 | | | |

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

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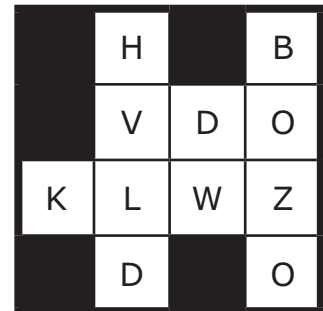
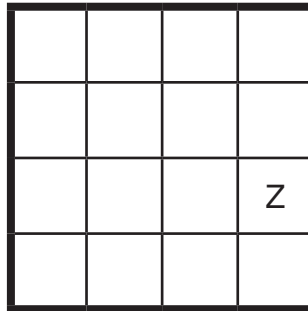
Instruction booklet

Round 4: Puzzle miscellaneous

1 JUST WORDS (35 points)

Place all words from the list in the grid, from left to right or from top to bottom. All words must be connected. Words that are not in the list should not appear in the grid. Some letters are already placed.

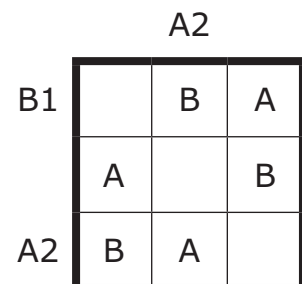
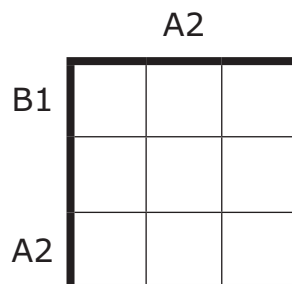
BOZO
DW
HVLD
KLWZ
VDO



2 EASY AS ABCDEF (100 points)

Fill in the grid with letters ABCDEF so that each row and column contains each letter exactly once. Some cells remain empty. Letters outside the grid indicate the letter and the relative position of that letter in that row or column from that direction.

Example (AB):



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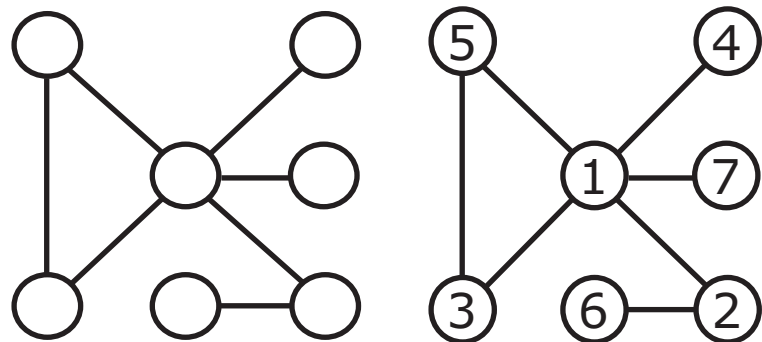
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Round 4: Puzzle miscellaneous

3 STRAIGHT LINES (100 points)

Place the numbers 1 to 15 each exactly once in the circles. Numbers on a straight line sum up to 28.

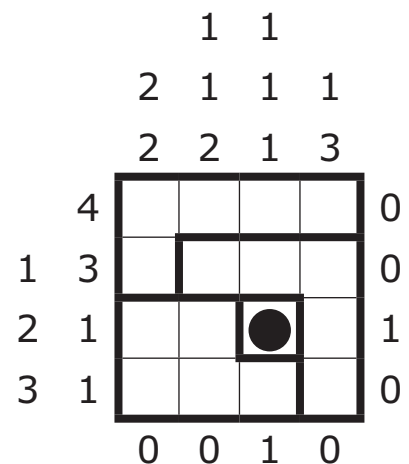
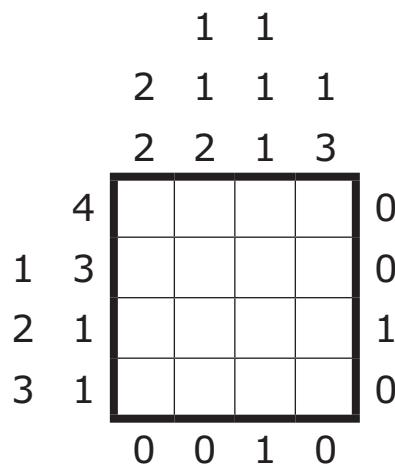
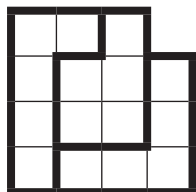
In the example: 1 to 7 that sum up to 8.



4 BATTLESHIPS - PENTA (90 points)

Place the given ships in the grid (example: one ship), so that they do not touch each other, not even diagonally. Numbers on the right and bottom of the grid indicate how many cells are occupied by ship segments.

Place all twelve different pentominoes in the grid (example: three pentominoes). The shapes can be rotated and/or mirrored. Numbers on the top and left of the grid indicate how many consecutive cells are occupied by a pentomino, from top to bottom and from left to right.



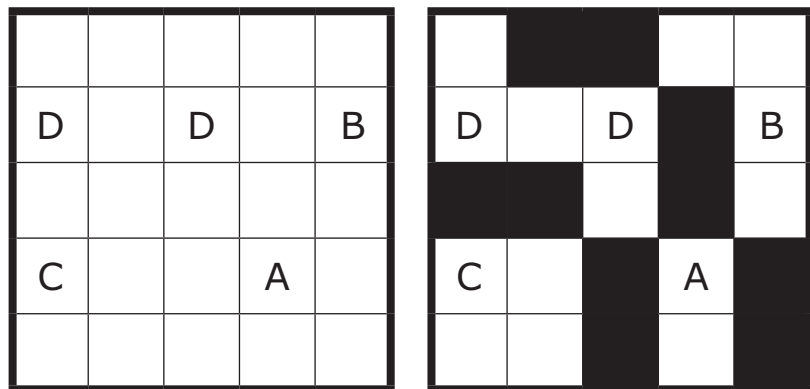
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Round 4: Puzzle miscellaneous

5 DOMINION (70 points)

Place some dominoes (1x2 black cells) in the grid, in order to divide the grid into regions of adjacent cells. Dominoes cannot overlap or touch each other from the sides. It is also not possible to cover a letter with a domino. Same letters belong to the same region, different letters belong to a different region. All regions contain one or more letter(s).



6 ANIMAL PLANET (60 points)

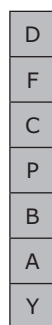
Twenty animals (example: fourteen animals) are hidden in the grid, one on each row and one in each column. All letters in the grid are used exactly once. Write the starting letters of the animals next to and below the grid (in the grey cells).

- APE
- BIRD
- CAT
- COW
- CRAB
- DEER
- DUCK
- FLY
- FOX
- FROG
- GOAT
- LION
- PIG
- YAK

| | | | | | | |
|---|---|---|---|---|---|---|
| K | O | D | A | U | R | C |
| R | A | O | B | X | F | L |
| O | G | A | W | O | C | I |
| G | P | C | I | F | E | N |
| D | R | I | R | L | E | B |
| F | E | T | P | Y | D | A |
| G | T | K | C | A | Y | O |



| | | | | | | |
|---|---|---|---|---|---|---|
| K | O | D | A | U | R | C |
| R | A | O | B | X | F | L |
| O | G | A | W | O | C | I |
| G | P | C | I | F | E | N |
| D | R | I | R | L | E | B |
| F | E | T | P | Y | D | A |
| G | T | K | C | A | Y | O |



| | | | | | | |
|---|---|---|---|---|---|---|
| F | G | C | C | F | D | L |
|---|---|---|---|---|---|---|

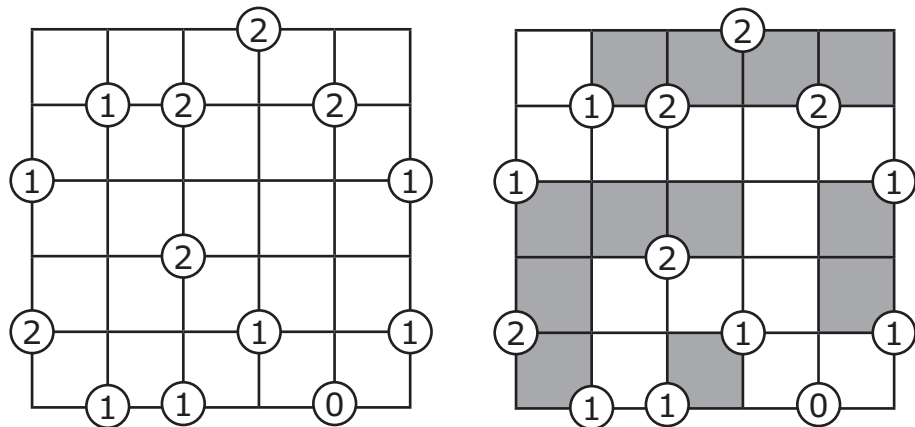
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Round 4: Puzzle miscellaneous

7 CREEK (55 points)

The digits in the circles indicate how many of the adjacent cells must be coloured. All remaining white cells are connected horizontally or vertically.

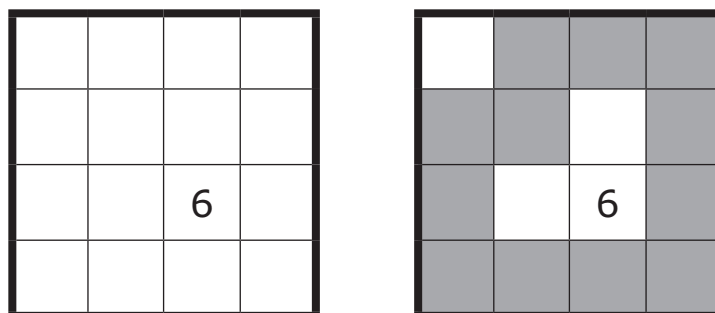


8 TROIKA - Bosnian road (40 points)

All three puzzles can have multiple solutions, but when overlaying the correct solutions (without rotation or reflection), all cells are coloured at least once.

Draw a one cell wide loop in the grid that doesn't touch itself, not even diagonally. Numbers in the grid indicate how many of the cells around it are used by the loop.

Note that this example has multiple solutions. In the actual puzzle the three solutions have to be combined to form the final solution!



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Round 5: Sudoku - sprint

1 RELAY (125 points)

This is a relay-round where the values found for letters have to be transposed to the next puzzle. The puzzle types in this round are based on a 6x6-sudoku.

1 Classic sudoku: Place the digits from 1 to 6 in every row, column, and 2x3 block.

2 Diagonal sudoku: Apply classic sudoku rules. The digits from 1 to 6 also have to be placed on the main diagonals.

3 Max Ascending sudoku: Apply classic sudoku rules. Clues outside the grid indicate the length of the longest connected serie(s) of ascending digits in the corresponding direction.

4 Scattered sudoku: Place the digits from 1 to 6 in every row, column, bold outlined area and the grey cells.

Score: 25 points for each correctly solved grid.

Complete puzzle: 4x25 plus 25 points = 125 points.

Classic

| | | | | | |
|---|----------|---|---|----------|---|
| 6 | 5 | 1 | 4 | 2 | 3 |
| 2 | 3 | 4 | 5 | 1 | 6 |
| 4 | 2 | 3 | 1 | 6 | 5 |
| 5 | 1 | 6 | 3 | 4 | 2 |
| 1 | 6 | 5 | 2 | 3 | 4 |
| 3 | 4 | 2 | 6 | 5 | 1 |

Diagonal

| | | | | | |
|---|----------|----------|----------|----------|---|
| 1 | 5 | 6 | 3 | 2 | 4 |
| 4 | 2 | 3 | 5 | 1 | 6 |
| 6 | 1 | 4 | 2 | 5 | 3 |
| 2 | 3 | 5 | 6 | 4 | 1 |
| 5 | 6 | 1 | 4 | 3 | 2 |
| 3 | 4 | 2 | 1 | 6 | 5 |

Max Ascending

| | | | | | | | |
|---|----------|---|----------|----------|---|----------|---|
| | 2 | 4 | 1 | 6 | 3 | 5 | 2 |
| | 6 | 5 | 3 | 1 | 4 | 2 | |
| | 3 | 6 | 5 | 2 | 1 | 4 | 4 |
| 5 | 4 | 1 | 2 | 3 | 5 | 6 | |
| | 5 | 3 | 6 | 4 | 2 | 1 | |
| 5 | 1 | 2 | 4 | 5 | 6 | 3 | |
| | | | | 2 | | | |

Scattered

| | | | | | |
|----------|---|----------|----------|---|----------|
| 1 | 3 | 2 | 5 | 4 | 6 |
| 2 | 6 | 4 | 3 | 1 | 5 |
| 3 | 5 | 1 | 2 | 6 | 4 |
| 6 | 2 | 3 | 4 | 5 | 1 |
| 4 | 1 | 5 | 6 | 2 | 3 |
| 5 | 4 | 6 | 1 | 3 | 2 |

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Round 5: Sudoku - sprint

Classic

| | | | | | |
|--|----------|---|---|----------|--|
| | | | | A | |
| | 3 | 4 | 5 | | |
| | 2 | | | 6 | |
| | 1 | | | 4 | |
| | | 5 | 2 | 3 | |
| | B | | | | |

Diagonal

| | | | | | |
|---|----------|----------|----------|----------|---|
| | | | | A | |
| | | C | 5 | | |
| 6 | | | | | 3 |
| 2 | | | | | 1 |
| | | 1 | D | | |
| | B | | | | |

Max Ascending

| | | | | | |
|----------|--|----------|----------|--|----------|
| | | | | | |
| | | C | | | |
| E | | | | | F |
| | | | | | |
| | | | D | | |
| | | | | | |

5

2

4

5

5

2

Scattered

| | | | | | |
|----------|--|---|---|--|----------|
| | | | | | |
| 2 | | | | | 5 |
| E | | 1 | 2 | | F |
| | | 3 | 4 | | |
| | | | | | |
| | | | | | |

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Round 6: puzzle - sprint

1 NEIGHBOURS - RELAY (150 points)

Place digits 1–3 in the grid so that in each row and column, each digit appears two times. 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. All grey cells are given.

The letters in puzzle 1 (A and B) correspond with A and B in the second puzzle, and so on.

Score: 30 points for each correctly solved grid. Complete puzzle: 4x30 plus 30 points = 150 points.

| | | | | | |
|------|-------|-------|-------|-------|------|
| Grey | White | White | Grey | Grey | Grey |
| Grey | 1 | A | Grey | Grey | Grey |
| Grey | Grey | Grey | White | Grey | Grey |
| Grey | White | White | White | Grey | Grey |
| Grey | White | B | Grey | 3 | Grey |
| Grey | Grey | Grey | Grey | White | Grey |

| | | | | | |
|-------|-------|-------|-------|-------|------|
| Grey | Grey | Grey | Grey | Grey | Grey |
| Grey | Grey | A | White | Grey | Grey |
| White | Grey | White | White | Grey | Grey |
| White | Grey | Grey | White | White | Grey |
| White | White | B | Grey | Grey | Grey |
| Grey | Grey | White | White | Grey | Grey |

| | | | | | |
|---|---|---|---|---|---|
| 2 | 1 | 3 | 1 | 2 | 3 |
| 3 | 1 | 3 | 2 | 1 | 2 |
| 2 | 3 | 1 | 3 | 2 | 1 |
| 1 | 2 | 2 | 3 | 1 | 3 |
| 3 | 2 | 1 | 2 | 3 | 1 |
| 1 | 3 | 2 | 1 | 3 | 2 |

| | | | | | |
|---|---|---|---|---|---|
| 1 | 3 | 2 | 3 | 1 | 2 |
| 2 | 1 | 3 | 1 | 2 | 3 |
| 3 | 2 | 1 | 1 | 3 | 2 |
| 3 | 1 | 3 | 2 | 2 | 1 |
| 2 | 2 | 1 | 3 | 1 | 3 |
| 1 | 3 | 2 | 2 | 3 | 1 |

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Sudoku: semi-final

1 CLASSIC

2 RENBAN

Place the numbers 1 to 9 on each row, in all columns and in the nine 3x3 regions. Digits in grey areas form Renban groups. These groups contain consecutive digits, in any order.

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

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

3 MATHRAX

Standard sudoku rules apply. 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 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.

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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Puzzle: semi-final

1 KAKURO

For each number the sum is equal to the number in the grey box. A number above a diagonal relates to the digits you need to fill in to the right. A number below a diagonal relates to the digits you need to fill in vertically below it. Enter digits 1–9 so that no digit repeats in any of the numbers.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| | | 26 | 7 | 15 | | | 10 | 27 | |
| | 21 | | | | 12 | 8 | 16 | | 14 |
| | 44 | | | | | | | | |
| 3 | | | | | | | | | |
| 11 | | | 15 | 3 | 4 | | 16 | | |
| 18 | | | | | | 30 | 14 | 4 | |
| | 3 | 18 | 30 | | | | | | |
| 3 | | | | 13 | | | | 10 | 7 |
| 10 | | | 8 | 3 | | | | 7 | |
| | | | 6 | | | 6 | 12 | | |
| | 42 | | | | | | | | |
| | 3 | | | | | 7 | | | |

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| | | 26 | 7 | 15 | | | 10 | 27 | |
| | 21 | 7 | 5 | 9 | 12 | 8 | 16 | 7 | 9 |
| | 44 | 4 | 2 | 6 | 9 | 7 | 3 | 8 | 5 |
| 3 | | | | | | | | | |
| 11 | 2 | 9 | 15 | 3 | 4 | 3 | 1 | 8 | 16 |
| 18 | 1 | 6 | 9 | 2 | 30 | 14 | 4 | 3 | 1 |
| | 3 | 18 | 30 | 6 | 1 | 7 | 9 | 5 | 2 |
| 3 | 2 | 1 | | | 13 | 8 | 5 | | |
| 10 | 1 | 9 | 6 | 8 | 3 | 2 | 6 | 6 | 12 |
| | | | | | | | | 7 | |
| | 42 | 6 | 5 | 1 | 9 | 4 | 7 | 8 | 2 |
| | 3 | 2 | 1 | | | | 7 | 2 | 5 |

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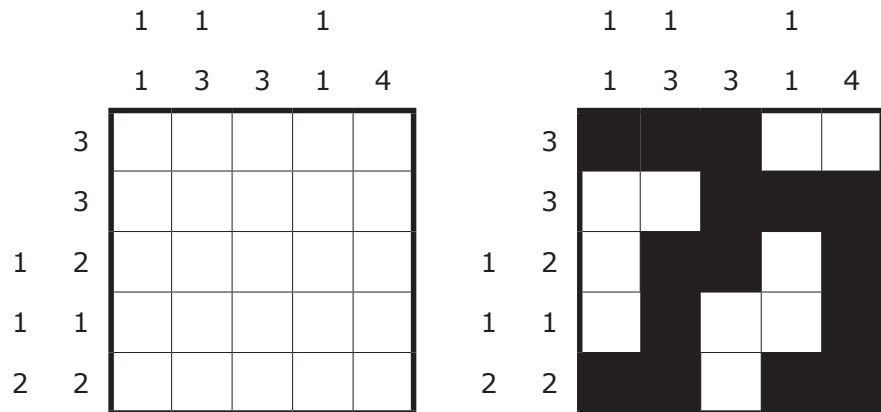
Instruction booklet

Puzzle: semi-final

2 CORRAL

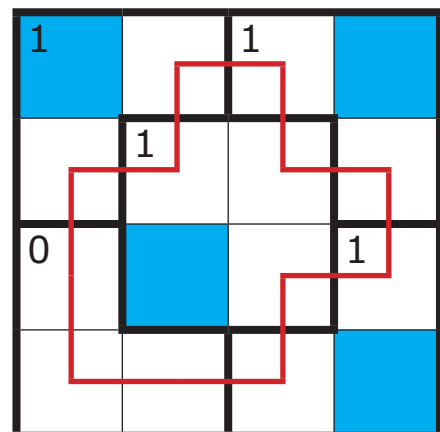
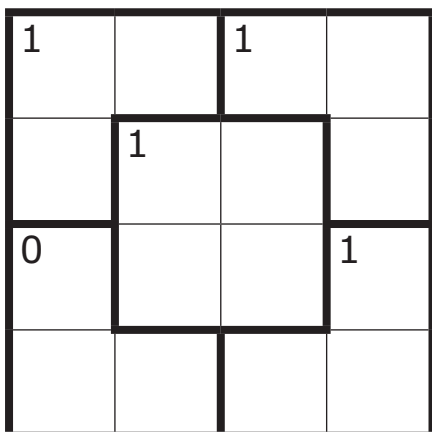
Paint a single connected set of cells (the corral) so that it does not touch itself, not even diagonally, does not surround any white areas and does not contain any 2x2 painted area. Numbers outside the grid indicate the sizes of consecutive painted blocks in that row/column.

Numbers are given in increasing order and not necessarily in the order the blocks appear. There must be at least one white cell between any consecutive blocks.



3 REGIONAL YAJILIN

Paint some cells black. Black cells are not allowed to be orthogonally adjacent. Draw a closed loop that passes through all the remaining white cells. The loop does not cross or overlap itself. A number in a bold outlined region indicates the number of black cells in that region. Cells with a number may be blackened.



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Sudoku: final

1 CLASSIC

2 NON CONSECUTIVE

Place the digits 1-9 in each column, each row and in all 3x3 regions.
All the places where consecutive numbers have to be filled in are marked with a circle. If there are no circles in the grid, it means all numbers are non-consecutive.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 9 | | 2 | | 8 | | 1 | | 5 |
| | 6 | | 1 | | 7 | | 2 | |
| 1 | | 6 | | 9 | | 7 | | 2 |
| | 5 | | 8 | | 6 | | 1 | |
| | | | | | | | | |

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

3 NEIGHBOURS

Standard sudoku rules apply. The digits outside the grid form pairs.
 These pairs have to be placed next to each other in the corresponding row or column, in the given order.

| | | | |
|---|---|---|---|
| 3 | 6 | 8 | 3 |
| 1 | 4 | 3 | 1 |

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

| | | | |
|---|---|---|---|
| 3 | 6 | 8 | 3 |
| 1 | 4 | 3 | 1 |

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

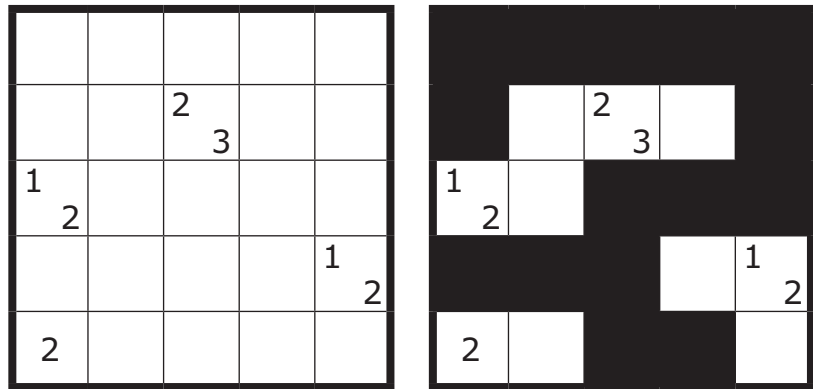
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Puzzle: final

1 TAPA

Grid cells must be filled in so that all the black cells form one contiguous region, not counting cells touching at a corner to be adjacent, but it is not allowed to have a two by two square of black cells. Clue cells with numbers may not be filled in and tell the length of each consecutive black cell block in the eight surrounding cells. Two cell blocks clued by two different numbers must be separated by at least one white cell.



2 STAR BATTLE

Place two stars with the size of one cell in each row, column and outlined region. The stars do not touch each other, not even diagonally.

Example with one star

