

Logic Masters 2017
Round 6 – Roller Coaster

Time: 60 minutes

6.1 Double block	5 + 10 + 20 points
6.2 Hakyuu	5 + 10 + 20 points
6.3 Skyscrapers	5 + 10 + 20 points
6.4 Capsules	5 + 10 + 20 points
6.5 Nanro	5 + 10 + 20 points
6.6 Renban	5 + 10 + 20 points
6.7 Snake	5 + 10 + 20 points
6.8 Easy as 123	5 + 10 + 20 points
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Total	280 points
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Bonus for every minute remaining	4 points

PUNKTE

The Roller Coaster consists of 8 partially overlapping puzzle grids. Assign one of the following 8 puzzle types to each of the grid: Double block, Hakyuu, Skyscrapers, Capsules, Nanro, Renban, Snake and Easy as 123. Enter numbers from 1 to 9 into some of the cells, such that every grid by itself fulfills all of its rules. Some of the puzzle types have clues outside of the grid. For those, all numbers directly next to the grid have to be valid clues, even if they lie inside another puzzle. The rules of the puzzle types are explained below. Caution: The rules of Capsules, Snake and Easy as 123 vary slightly from their standard rules. Additionally, the following holds:

- Every puzzle type applies to exactly one grid.
- All puzzle grids are rectangular.
- No cell belongs to more than two grids.
- Puzzles with regions contain no region with more than 9 cells.
- Puzzles without regions can only contain regions where they intersect puzzles that have regions.
- Every region lies completely within a puzzle or the intersection of two puzzles. There is no region which lies only partially in a puzzle.
- Size and arrangement of puzzles in the example give no information about size and arrangement of the competition puzzles.

At most 280 points can be reached (excluding bonus points for early completion). A grid or part of a grid are only correctly filled if the filled solution is part of the correct global solution. Points for partial solving of grids can be attained as follows:

- Assigning a puzzle type correctly to a grid yields 5 points. For this it is enough to write the puzzle type next to the grid.
- Filling an intersection of two grids completely and correctly yields 10 points, if none of the two grids are completely correct.
- An incomplete or incorrect grid, in which all cells are filled correctly that do not belong to an intersection with a different grid, yields 20 points.
- There are no negative points for incorrect solutions or puzzle type assignments.

6.1 Double block

5 + 10 + 20 Punkte

Enter the numbers 1 to $n-2$ into the grid, where n is the number of rows in the grid, such that every row and column contains two empty cells and every digit exactly once. Numbers next to the grid (in all four directions) indicate the sum of all numbers between the two empty cells in the corresponding row or column.

6.2 Hakyuu

5 + 10 + 20 Punkte

Fill the grid with numbers, such that every outlined region contains all numbers from 1 to the number of cells in that region exactly once. Within a row or column, two cells containing the same number have to have at least as many cells between them as the number indicates.

6.3 Skyscrapers

5 + 10 + 20 Punkte

Fill the grid with numbers from 1 to n , where n is the number of rows in the grid, such that every row and column contains every number exactly once. The numbers represent skyscrapers of the respective size. Clues outside of the grid indicate how many skyscrapers are visible from that position in the corresponding row or column, where higher skyscrapers hide lower ones.

6.4 Capsules

5 + 10 + 20 Punkte

Fill the grid with numbers, such that every outlined region contains every number from 1 to the number of cells in that region exactly once. Cells with the same number may not touch, not even diagonally.

6.5 Nanro

5 + 10 + 20 Punkte

Write numbers into some cells, such that all numbers within an outlined region are the same and indicate, how many numbers this cell contains. Every region has to contain at least one number. Cells of different regions containing the same number may not share an edge. No 2×2 -area may be completely filled with numbers. All cells with numbers have to be orthogonally connected.

6.6 Renban

5 + 10 + 20 Punkte

Fill the grid with numbers from 1 to the number of rows in the grid, such that every row and column contains every number exactly once. Numbers within an outlined region have to be consecutive numbers, not necessarily in the right order.

6.7 Snake

5 + 10 + 20 Punkte

Draw a snake into the grid that does not touch itself, not even diagonally. The numbers outside the grid (in all four directions) indicate, how many of the cells in the corresponding row or column are used by the snake. The cell covered by the snake repeatedly contains the numbers 1-2-3-4 in this order, starting with 1 in the head of the snake. The last cell can contain any number from 1 to 4. Some numbers can be given, which are not necessarily the first and last cell.

6.8 Easy as 123

5 + 10 + 20 Punkte

Enter the numbers from 1 to 4 into the grid, such that every row and column contains every number exactly once. The numbers outside of the grid indicate the third number in the corresponding row or column, counting from the clue's direction.

