LOGIC MASTERS Deutschland e.V.

www.logic-masters.de

WORLD PUZZLE FEDERATION

Logic Masters 2017
Round 3 – Mixer

Time: 65 minutes

PUNKTE

3.1 Domino Pills   25 Punkte

Divide the grid into rectangular regions of sizes 2 and 3 such that all dominoes with the numbers 0 to 3 and ten pills with all values from 0 to 9 occur. Pills consists of 3 cells. The value of a pill equals the sum of all numbers inside the pill.

1	1	1	3	3	2	3	0	0	1
1	0	2	3	0	2	1	3	0	1
1	0	2	3	0	1	3	2	2	3
1	0	0	2	3	0	0	3	1	3
1	1	3	3	2	0	0	3	2	2

0 0	0 1	0 2	0 3

1 1	1 2	1 3

2 2	2 3

3 3

0	1	2	3	4
5	6	7	8	9

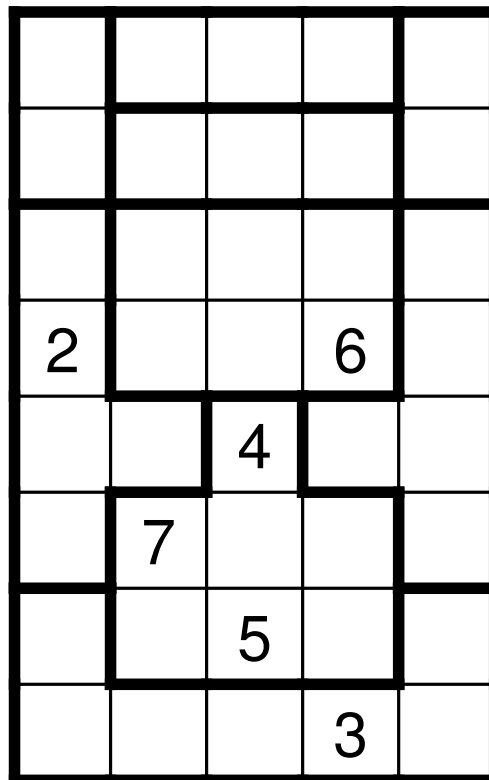## 3.2 Candles Yin Yang   35 Punkte

Write numbers from 1 to 4 in some empty cells, representing candles with the respective height. All cells with candles are connected as well as all cells without candles. Cells are connected if they share an edge. There is no 2x2 area completely filled with candles or completely free of candles. Given numbers indicate the total height of all candles in the eight adjacent cells. Candles without adjacent candles have height 4. As the heat of nearby candles melts wax, the height of a candle is reduced by 1 for each horizontally or vertically adjacent candle. Diagonally adjacent candles do not melt wax. There are no candles of height 0. A solution is considered correct if the position of the candles is correct. Inscribing the heights of the candles is optional.

			14			
	10					
					12	
		15				

3.3 Hakyuu Hitori   40 Punkte

Fill the grid with numbers such that in every region every number between 1 and the size of the respective region occurs exactly once. If the same number occurs multiple times in one row or column, there must be at least as many cells with different numbers in between as the number indicates. Now blacken some cells such that the remaining cells do not contain two equal numbers in any row or column. All white cells are connected and black cells do not share an edge.

3.4 LITS Starbattle

Place stars in some cells such that there are two stars in every row, column and region. Cells with stars do not touch, not even diagonally. Blacken some cells without stars such that in every region there are four connected black cells, forming a tetromino. Cells are connected if they share an edge. All black cells are connected but no 2x2 area is completely black. Equal tetrominoes do not share an edge. Mirrored or rotated tetrominoes are considered equal.

3.5 Japanese Sums Cave

Blacken some cells and fill the remaining cells with number from 1 to 9. All cells with numbers are connected. All black cells are connected to the edge of the grid. Numbers do not repeat in any row or column. Every number in the grid is a valid clue for the cave and indicate how many cells are visible in horizontally and vertical line from the respective cell, including the cell itself. Numbers at the edge of the grid determine the sums of numbers in consecutive cells in the correct order. Different sums are separated by at least one black cell. Some numbers are replaced by question marks. A question mark can stand for a one-digit number or a two-digit number greater than 0.

3.6   Masyu Magic Spiral

Write numbers from 1 to 3 in some empty cells such that in every row and column every number appears exactly once. If one follows the spiral from the outside to the center, one can repeatedly read the sequence 1-2-3, starting with 1. Draw a loop into the grid connecting the center of horizontally or vertically adjacent cells. The loop uses every cell with a number and visits every cell at most once. In cells with the number 1 or 3 the loop goes straight but turns in the next cell in at least one of the two directions. In cells with the number 2 the loop turns but goes straight in both neighboring cells along the loop.