

LMI PUZZLE TEST 'WCPN'
19TH – 21TH DECEMBER 2015
BY HNS EENDEBAK & RICHARD STOLK



INSTRUCTION BOOKLET

WCPN is the official Dutch puzzle association. In full: World Class Puzzles from The Netherlands. The association was erected two years ago and has its own website (www.wcpn.nl) with daily puzzles. We are two of the founders of the association and the main authors of the daily puzzles on the website. This test contains a few of the puzzle types that we present on our website on a regular basis. We hope you enjoy solving the puzzles as much as we did thinking about and creating them!

What you need to know:

- The duration of the test is 120 minutes;
- The distribution of points is based on the times needed by test solvers. Therefore, you might experience differences due to your own personal skills and preferences;
- The puzzle booklet will contain 11 pages, without cover page and points table;
- If you submitted all solutions correct you can have bonus points. Your final score is then calculated using the formula: Final Score = Total Points / Used Time * 120 minutes.

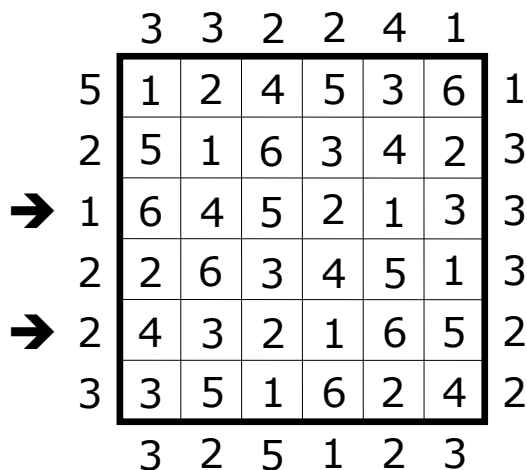
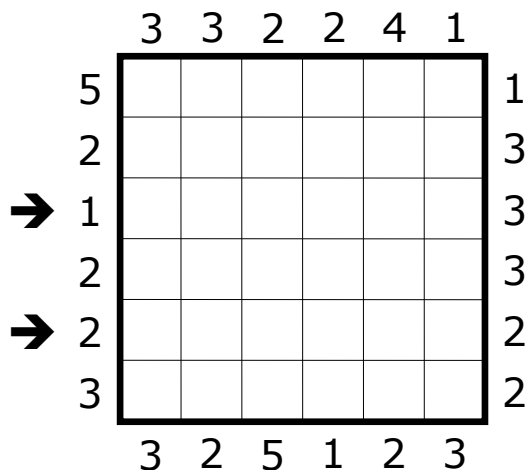
Many thanks go to Saskia Benedictus, Florian Kirch, Rick Uppelschoten, Roland Voigt, Wilbert Zwart and Robert Beärda for test solving and to LMI for hosting this contest.

This test is dedicated to
Florian Kirch (1991 - 2015)
He died recently
at a very young age.

Points Distribution		
#	Puzzle	Points
1	Skyscrapers	30
2	Skyscrapers	35
3	Ripple Effect	30
4	Ripple Effect	95
5	Snake	30
6	Snake	60
7	Mathrax	45
8	Mathrax	70
9	Neighbours	55
10	Neighbours	75
11	Touching Pentominos	30
12	Touching Pentominos	30
13	Mochikoro	20
14	Mochikoro	50
15	Sudoku XV	65
16	Sudoku XV	70
17	Star Wars	35
18	Star Wars	45
19	Japanese Sums Plus	25
20	Japanese Sums Plus	105
TOTAL		1.000

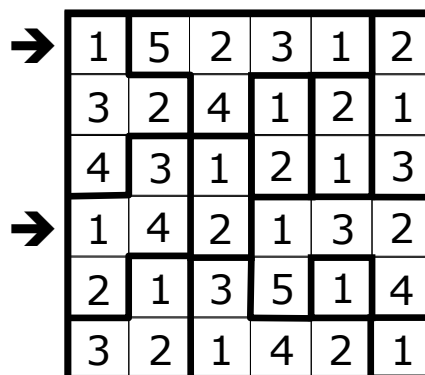
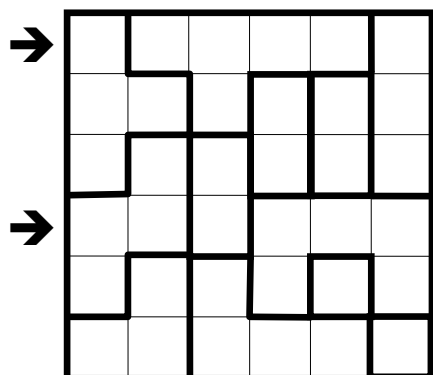
1 & 2 Skyscrapers (30 and 35 points)

Place the digits 1-n (the grid size) in every row and column. Each digit indicates a skyscraper of that height. Numbers outside the grid indicate how many buildings are visible when looking from that side. Larger buildings block the view of smaller buildings. *Solution code: the content of the marked rows (645213, 432165).*



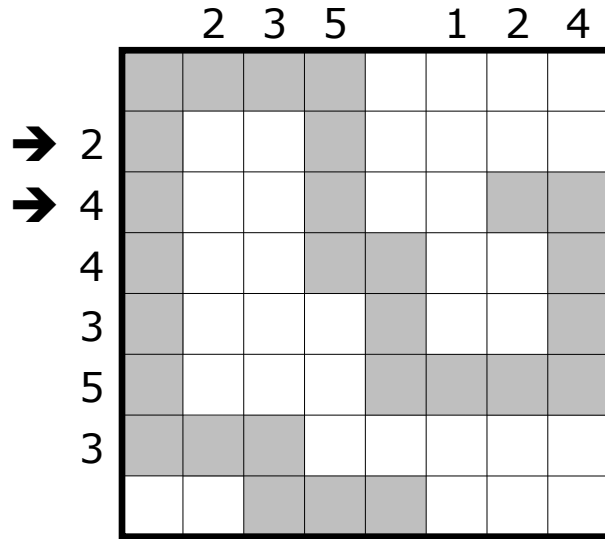
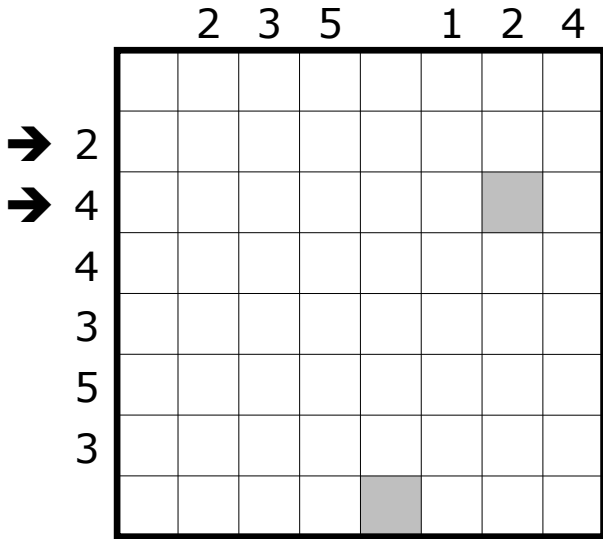
3 & 4 Ripple Effect (30 and 95 points)

Place digits 1-n in each bold outlined area, where n equals the size of the area in cells. Equal digits in the same row or column are separated by at least a number of squares equal to that digit. (e.g. Two 3's are separated by at least 3 squares). *Solution code: the content of the marked rows (152312, 142132).*



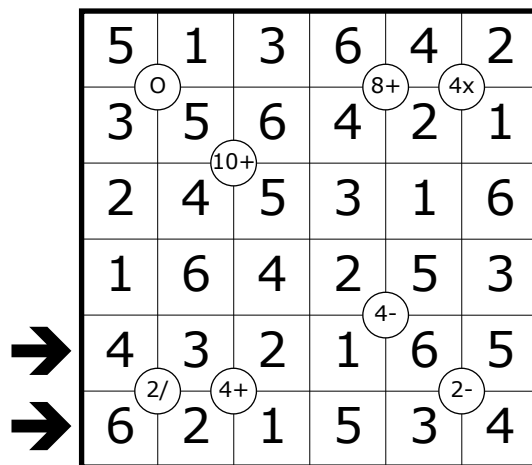
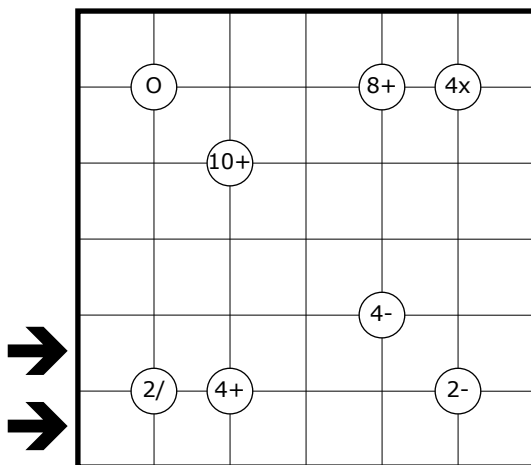
5 & 6 Snake (30 and 60 points)

Find a snake in the grid whose head and tail are indicated by the grey cells. The snake wriggles horizontally and vertically and never touches itself, not even diagonally. The digits outside the grid indicate the number of cells occupied by the snake in that row or column. *Solution code: the content of the marked rows; 'S' for occupied cells, '-' for empty cells (S--S----, S--S--SS).*



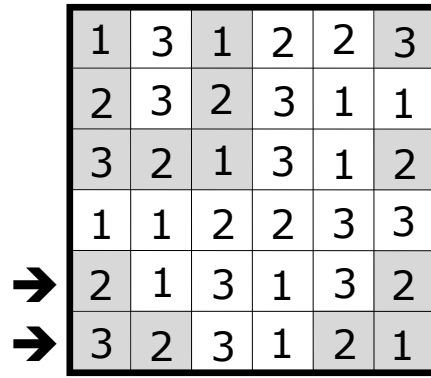
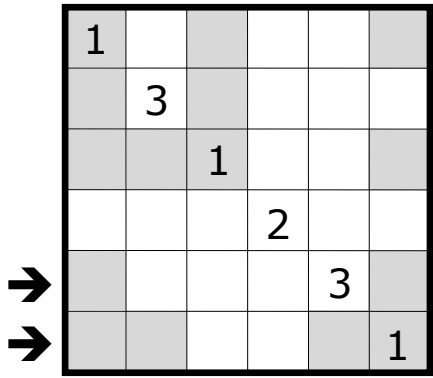
7 & 8 Mathrax (45 and 70 points)

Place the digits from 1 to 8 in each row and each column. 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. *Solution code: the content of the marked rows (432165, 621534).*



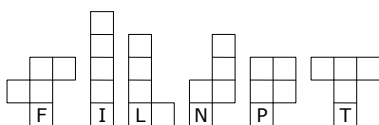
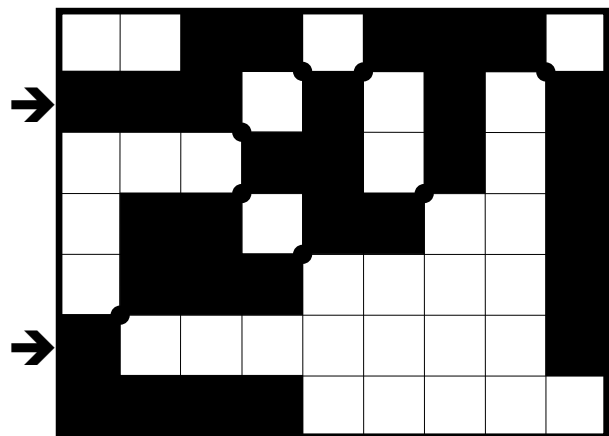
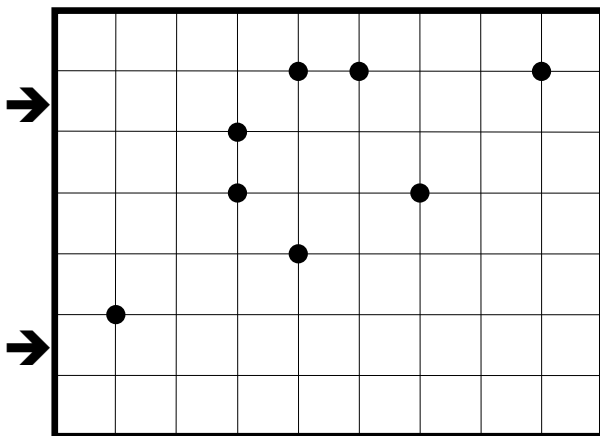
9 & 10 Neighbours (55 and 75 points)

Place digits 1-3 in the grid so that in each row and column, each digit appears two (top puzzle) or three (bottom puzzle) 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. *Solution code: the content of the marked rows (213132, 323121).*



11 & 12 Touching Pentominos (30 and 30 points)

Place all twelve pentominos in the grid. (In IB only pentominos F,I,L,N,P,T.) The shapes can be mirrored and rotated, but they can only touch diagonally. All points where two pentominos touch are indicated by a black dot. *Solution code: the content of the marked rows; for every cell the letter of the pentomino and '-' for empty cells (NNN-F-T-I, L-----I).*



13 & 14 Mochikoro (20 and 50 points)

Blacken some cells in order to form rectangular areas of white cells. No two areas share an edge, but all areas are interconnected through their corners. All numbered cells are part of a different white area, but not all white areas have a number. The number indicates the amount of white cells in that area, including the cell with the number. Blackened 2x2 areas are not allowed. *Solution code: the content of the marked rows; 'W' for white cells, 'B' for black cells (WBBBWBWW, BWWBBWBB).*

→

→

		4		3		6	
					1		
			4				
4							6
				4			

→

→

B	W	W	B	W	B	W	W
W	W	4	W	3	W	6	W
W	B	B	B	W	B	W	W
B	W	W	B	B	1	B	B
B	B	B	W	W	B	W	W
W	W		4				
4	W	B	B	B	B	W	6
B	B	W	W	4	W	B	B

15 & 16 Sudoku XV (65 and 70 points)

Place the digits from 1 to 9 in every row, column and 3x3-block. **All** adjacent cells with two digits summing to 5 are marked by V, while those summing to 10 are marked by X. *Solution code: the content of the marked rows (281749365, 374516928).*

→

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

→

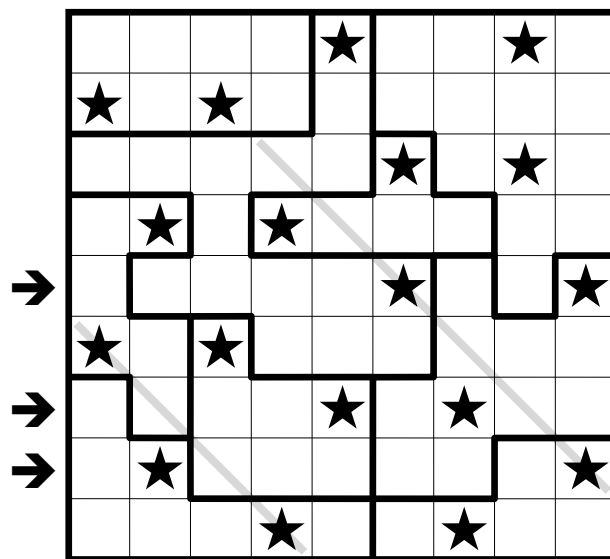
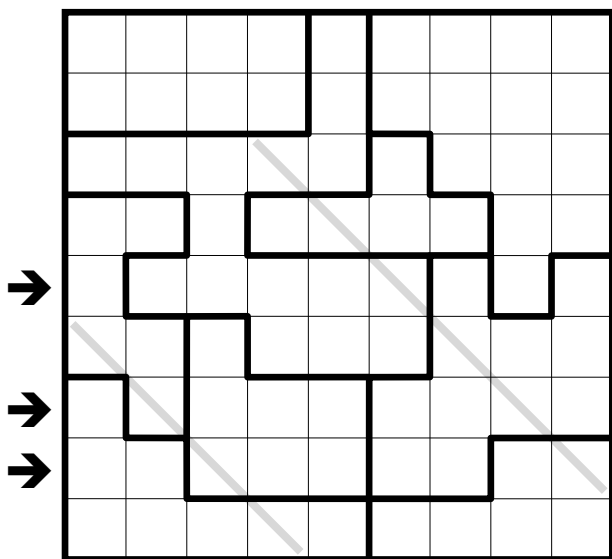
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2	x	8	1	7	4	9	3	6	5		
7	x	3	5	2	x	6	1	8	9	4	
4	x	6	9	8	x	3	5	7	x	1	2
v											
1	5	7	9	8	4	2	v	3	6		
6	2	v	3	1	5	7	4	8	9		
9	4	8	6	2	v	3	1	5	7		
8	9	6	3	x	7	2	5	4	v	1	
5	1	2	4	9	x	8	6	7	x	3	
3	x	7	4	5	x	1	6	9	2	x	8

→

17 & 18 Star Wars (35 and 45 points)

Place two stars with the size of one cell in each row, column, bold outlined areas and on all straight grey lines. The stars do not touch each other, not even diagonally. *Solution code: for the marked rows the number of white cells between the two stars (216).*



19 & 20 Japanese Sums Plus (25 and 105 points)

Place all digits 1–6 (1–9 in the second puzzle) once in every row and column. In every row and column exactly two (three in the second puzzle) cells remain empty. Numbers outside the grid indicate the sums of contiguous blocks of digits in that row or column. Blocks have to be separated by at least one empty cell. *Solution code: the content of the marked rows, ignore empty cells (463152, 341526).*

9				5		3	4
9	10	11	16	4	10	13	10
3	11	10	5	12	11	5	7

1 5 15								
21								
7 2 12								
17 4								
5 4 12								
→13 8								
→15 6								
5 10 6								

9				5		3	4
9	10	11	16	4	10	13	10
3	11	10	5	12	11	5	7

1 5 15	1		5		2	6	3	4
21	2	4	6	5	3	1		
7 2 12	6	1		2		3	4	5
17 4		5	2	6	4		1	3
5 4 12	5		1	3		4	6	2
→13 8	4	6	3		1	5	2	
→15 6		3	4	1	5	2		6
5 10 6	3	2		4	6		5	1