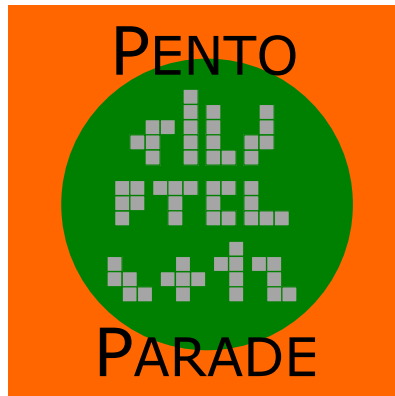# LMI PUZZLE TEST 'PENTO PARADE'
11 - 13 OCTOBER 2014
BY RICHARD STOLK

INSTRUCTIONS BOOKLET

A lot of players do have a love/hate relationship with pentominos. I belong to the first category, especially since I am impressed by the number of different ways you can use pentominos in logic puzzles. Therefor I have made a puzzle test that contains only pentomino puzzles. Since some of the puzzle types in this test are relatively unknown, I will provide links to extra practice material in the forum, so players can have a decent preparation to this test.

I hope you enjoy solving the puzzles as much as I did thinking about and creating them!

What you need to know:

- The duration of the test is 120 minutes;
- Each pentomino has its own letter: FILNPTUVWXYZ. In the IB less pentominos are used, due to the size of the example puzzles. The first puzzle in the IB has a picture of the whole pentomino set.
- In all puzzles reflection and/or rotation of the pentominos is allowed;
- All puzzles have two or three clearly marked (A, B, C) rows as answer key: enter the first three pentominos that you come across from left to right. Use (a) minus-sign(s) when there are not enough pentominos.
- 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 10 pages, without cover page and points table;
- This test uses **instant grading** where a solver can submit any individual puzzle once finished and receive confirmation that the solution is correct or not. Each incorrect submission reduces the puzzle's potential score. The first, second, third, and fourth incorrect submission reduces the potential score to 90%, 70%, 40%, and 0% respectively. (Afterwards, the puzzle's potential score remains 0%.)
- 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.
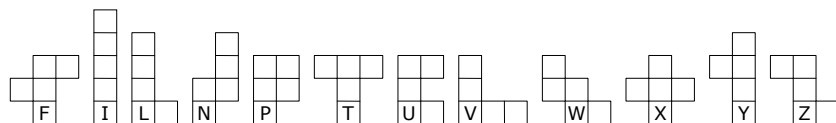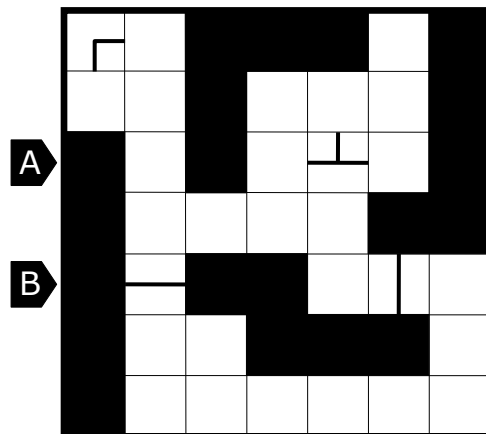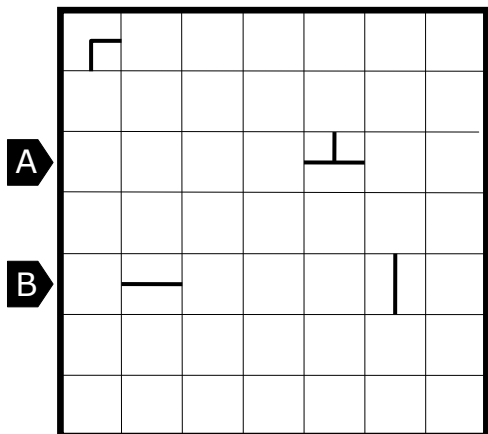
Many thanks go to Florian Kirch, Hans Eendebak, René Gilhuijs, Robert Beärda, Roland Voigt and Wilbert Zwart for test solving and to LMI for hosting this contest.

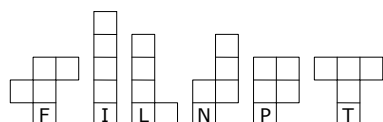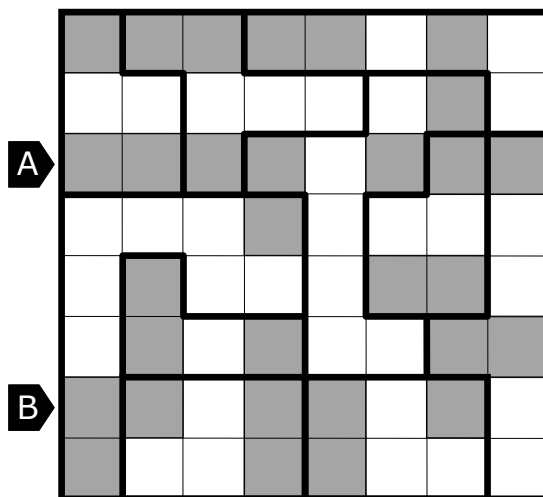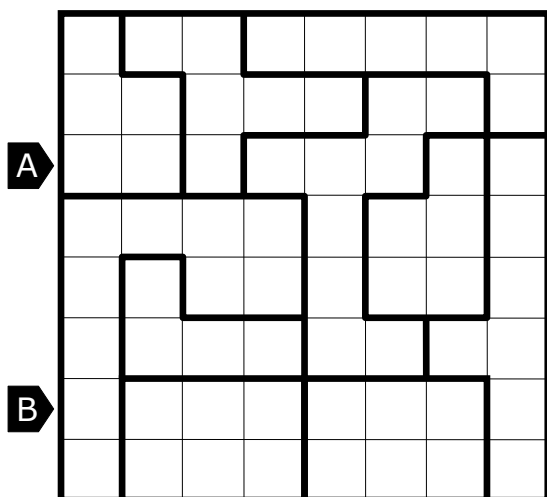|	Points distribution	
1	Pentopia	45
2	Pentopia	60
3	Pentomino in the Box	55
4	Pentomino in the Box	70
5	Minesweeper Pentomino	45
6	Minesweeper Pentomino	60
7	Pentomino Yajilin	60
8	Pentomino Yajilin	65
9	Mini Pento Loops	30
10	Mini Pento Loops	55
11	Touching Pentominos	25
12	Touching Pentominos	25
13	Pentapa	60
14	Pentapa	70
15	Filled Loop	45
16	Filled Loop	95
17	Sum Pentominos	35
18	Sum Pentominos	35
19	Pentomino Word Search	65
	TOTAL	1.000

GOOD LUCK AND HAVE FUN!

1 & 2 PENTOPIA (45 & 60 POINTS)

Place **some** different pentominos into the grid (**not necessarily all of them**), so that they do not touch each other, not even diagonally. Reflection and rotation is allowed. Lines denote the direction of the closest pentomino parts out of the four (horizontal and vertical) directions. In case there are more such directions, all of them are indicated with lines. Cells with lines don't contain pentomino parts. (*Answer key: IVL, IN-*)
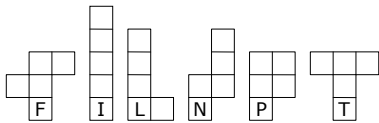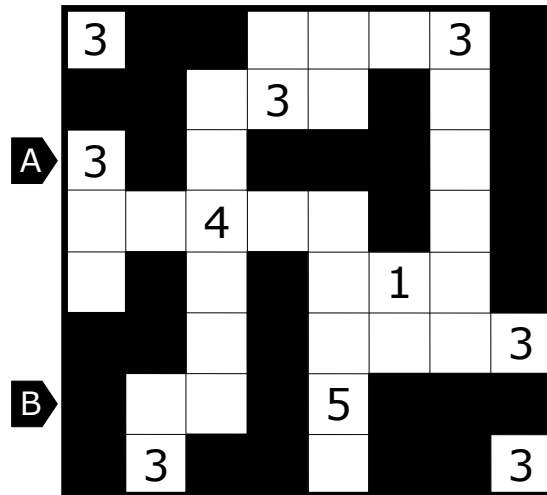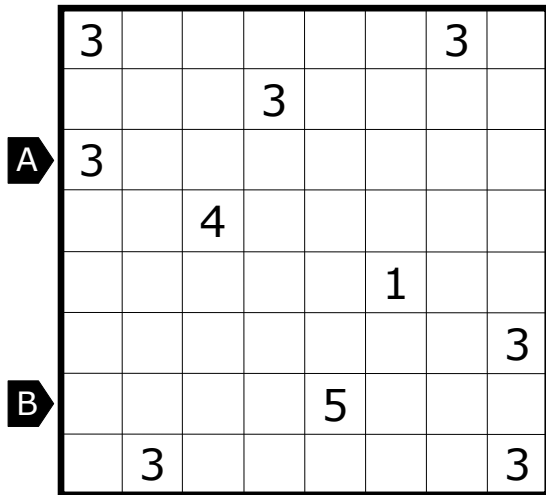
3 & 4 PENTOMINO IN THE BOX (55 & 70 POINTS)

Place all pentominos in the grid, so that they don't touch each other, not even diagonally. Reflection and rotation is allowed. Every bold outlined area contains exactly three cells that belong to two different pentominos. (*Answer key: LT-, NPF*)
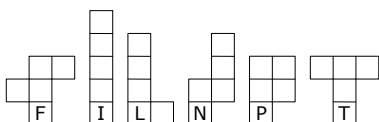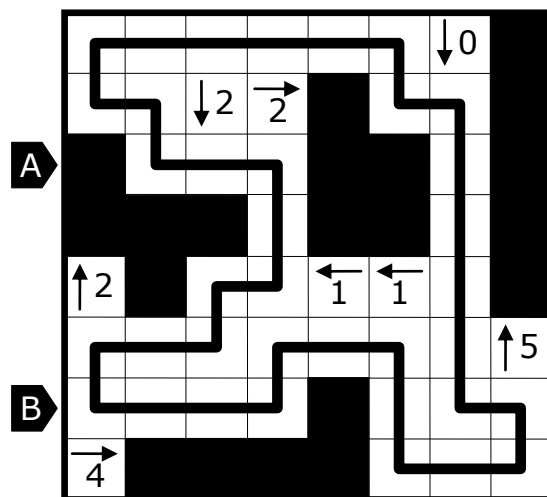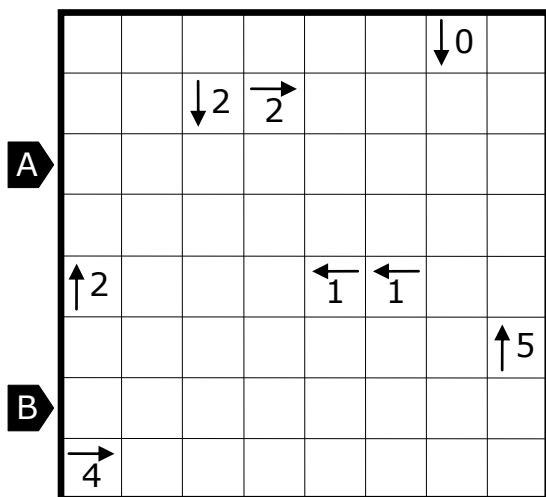
5 & 6 MINESWEEPER PENTOMINO (45 & 60 POINTS)

Place all pentominos in the grid, so that they don't touch each other, not even diagonally. Reflection and rotation is allowed. The numbers indicate how many of eight surrounding cells contain a pentomino part. Cells with numbers don't contain pentomino parts. *(Answer key: FTI, NLP)*
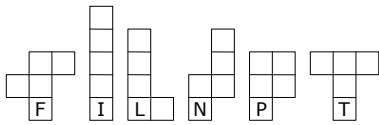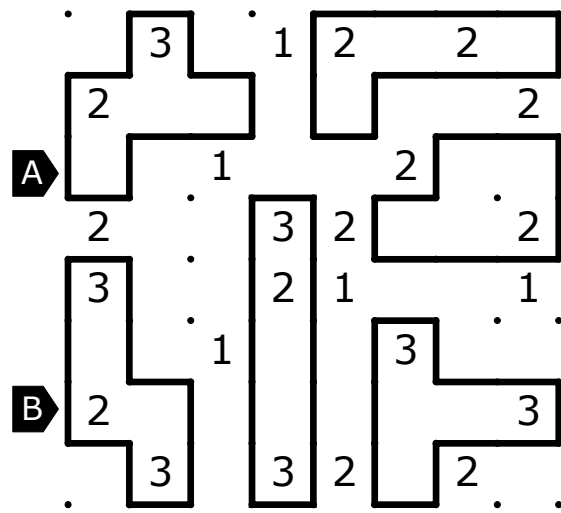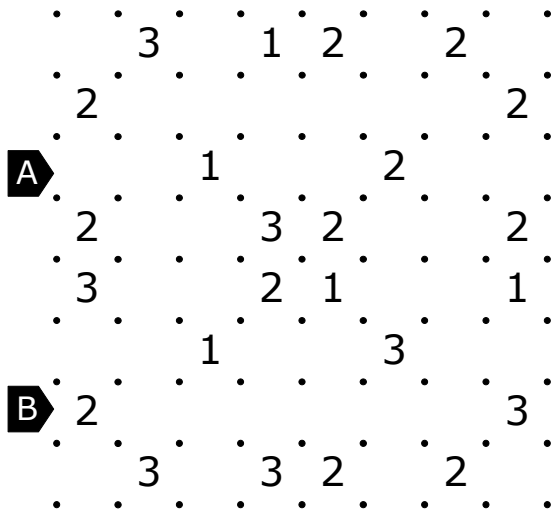
7 & 8 PENTOMINO YAJILIN (60 & 65 POINTS)

Color **some** cells black so that every arrow points at the indicated number of black cells. Black cells form different pentominos (**not necessarily all of them**). Reflection and rotation is allowed. Pentominos don't touch each other, not even diagonally. Cells with numbers don't contain pentomino parts. The remaining white cells form a single closed loop that does not cross or overlap itself. *(Answer key: FPI, L--)*
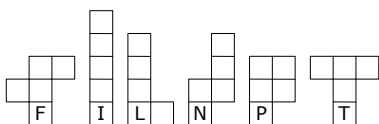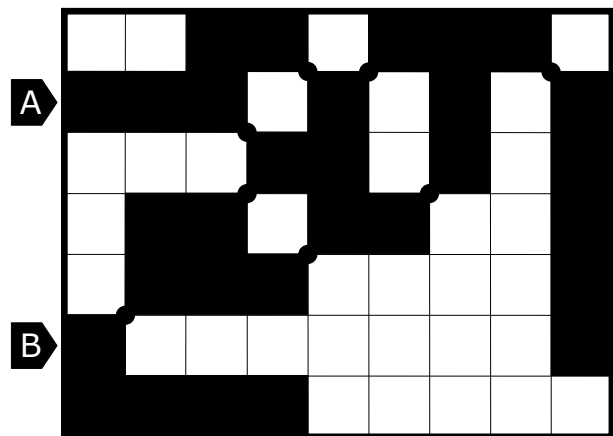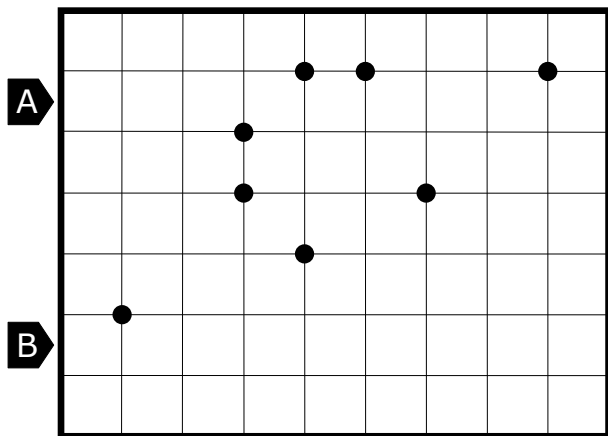
9 & 10 MINI PENTO LOOPS (30 & 55 POINTS)

Draw 12 mini loops in the grid such that each loop contains a different pentomino. The loops don't touch each other, not even diagonally. Reflection and rotation is allowed. The numbers in the grid tell how many of the cell edges belong to a loop. *(Answer key: FP-, NIT)*
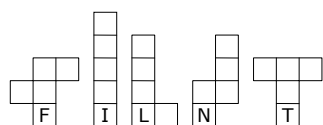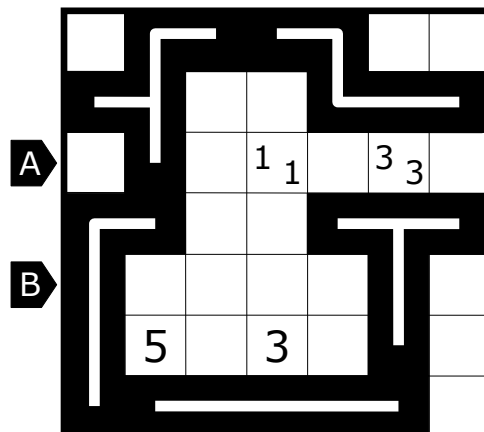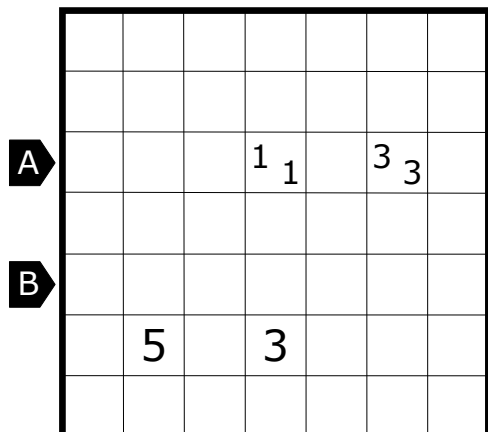

11 & 12 TOUCHING PENTOMINOS (25 & 25 POINTS)

Place all pentominos in the grid so that no two of them share an edge. They can touch diagonally, though: every node where two pentominos share a corner is marked with a black dot. Reflection and rotation is allowed. *(Answer key: NFT, LI-)*
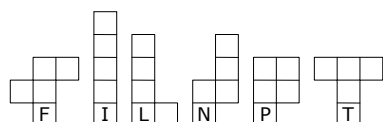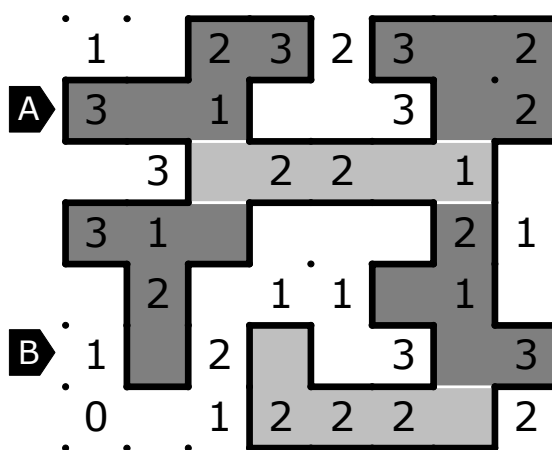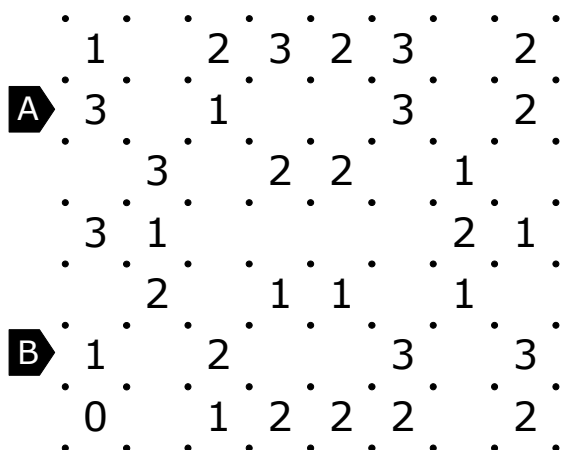
13 & 14 PENTAPA (60 & 70 POINTS)

Follow regular Tapa rules. Additionally the Tapa wall should be made up of all pentominos, using all of them once, with exception of the P. Reflection and rotation is allowed. *(Answer key: F--, LT-)*

15 & 16 FILLED LOOP (45 & 95 POINTS)

Draw a single closed loop along the grid lines. The loop does not cross or touch itself. The numbers in the grid indicate how many sides of the cell are used for the loop. Fill the loop with the 12 pentominos; inside the loop are 60 cells. Adjacent pentominos touch each other at exactly one border segment. There are no points where three or more pentominos meet. Reflection and rotation is allowed. *(Answer key: NP-, TLF)*
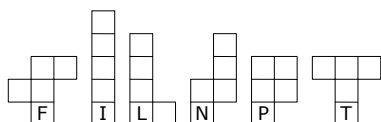
17 & 18 Sum Pentominos (35 & 35 Points)

Divide the grid in the 12 pentominos. Reflection and rotation is allowed. The sum of the digits in each pentomino is given next to the grid.

Sum = 15

19 Pentomino Word Search (65 Points)

Divide both grids in the 12 pentominos. Reflection and rotation is allowed. Every pentomino contains the five letters of one of the given words. (The list of words for both grids is combined.) In case only one grid is submitted 30 points can be earned. *(Answer key: IT-, LNF, TNL, FPL)*

CHILE
CHINA
GABON
GHANA
ITALY
KENYA
LIBYA
MALTA
NEPAL
SPAIN
SUDAN
TONGA