

NAME:

POINTS:



8TH 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER 2007

HOTEL BENTA

BUDAPEST

PUZZLES BY:

SINIŠA HRGA

NUMBER TABLES	40 points	(10 + 30)
ZIG-ZAG	70 points	(20 + 50)
DOMONO	80 points	(40 + 40)
SPOKES	80 points	(20 + 60)
BLACK AND WHITE LOOP	40 points	
ARROWS	90 points	(20 + 70)
MAGNETS	80 points	(30 + 50)
BARIERS	140 points	(70 + 70)
ISLANDS	90 points	(60 + 30)
TOUR OF THE FIELDS	90 points	
TRACTORS	200 points	(50 + 50 + 100)
<hr/>		
Total	1000 points	

1. NUMBER TABLES

Divide each row of digits into three numbers and place them into the grid so that every digit is part of one vertical and one horizontal number.

7	8	2	5	4	7	5	6
2	1	4	3	1	6	3	8

7	8	2	5	4	7	5	6
2	1	4	3	1	6	3	8

2	5	4	7
1	6	3	8

7	1	7	3	4	8	7	9	8	5	4	1
9	5	4	8	3	7	5	9	2	4	8	3
9	7	3	8	5	1	3	2	3	1	8	7

10 points

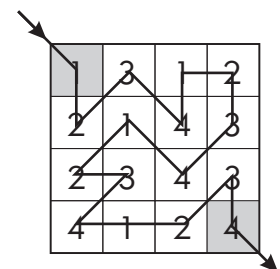
5	3	3	8	2	7	6	7	9	5	7	3	2	7	9	5
3	5	3	5	1	3	6	3	6	8	4	3	1	9	4	4
6	2	6	9	4	5	3	5	7	5	7	8	9	6	4	5
3	4	2	5	6	3	1	3	3	7	8	6	3	9	1	7

30 points

2. ZIGZAG

Find a way between the two gray coloured squares with a continuous zigzag line! The small parts of the zigzag connect the middle points of the neighbouring squares. The line can go horizontally, vertically and diagonally. The line can't touch or cross itself. The numbers following the lines should come in 1-2-3-4-1-2-3-4-1-2-3-4... order. The zigzag must pass through all squares.

1	3	1	2
2	1	4	3
2	3	4	3
4	1	2	4



50 points

20 points

1	1	2	3	4	1	2	3
1	2	4	4	1	3	4	1
2	4	3	3	4	2	2	2
3	2	3	2	1	3	1	3
4	1	4	1	4	2	3	4
3	2	4	2	1	3	1	4
4	2	1	3	2	2	1	2
1	3	4	1	3	4	3	4

1	4	1	2	4	3	4	2	3	1
2	4	3	3	1	2	1	1	4	2
3	1	2	3	2	4	3	2	3	4
1	3	4	1	1	2	4	1	1	2
2	4	2	4	3	3	1	2	4	3
4	3	2	3	2	4	3	1	3	4
4	1	1	4	1	3	4	2	2	1
1	3	2	1	2	4	3	1	2	3
3	2	2	4	2	1	2	3	4	3
4	1	3	3	4	1	4	1	2	4

3. DOMINO

We have placed a complete domino double 6-set in the grid. However, the sides of the dominoes have been removed and the spots have been replaced by numbers. Can you draw the sides in the diagram so that it becomes clear exactly how the dominoes are positioned?

0	1	0	0
0	2	2	1
2	1	1	2

0-0
0-1 1-1
0-2 1-2 2-2

0	1	0	0
0	2	2	1
2	1	1	2

1	1	1	0	2	2	4
5	3	1	5	2	4	2
2	3	1	6	0	4	5
5	6	1	1	6	0	0
0	0	2	4	5	3	0
4	5	3	6	6	5	0
3	5	3	4	3	4	6
2	4	3	1	2	6	6

40 points

0-0
1-1 0-1
2-2 1-2 0-2
3-3 2-3 1-3 0-3
4-4 3-4 2-4 1-4 0-4
5-5 4-5 3-5 2-5 1-5 0-5
6-6 5-6 4-6 3-6 2-6 1-6 0-6

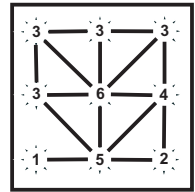
40 points

0-0
0-1 1-1
0-2 1-2 2-2
0-3 1-3 2-3 3-3
0-4 1-4 2-4 3-4 4-4
0-5 1-5 2-5 3-5 4-5 5-5
0-6 1-6 2-6 3-6 4-6 5-6 6-6

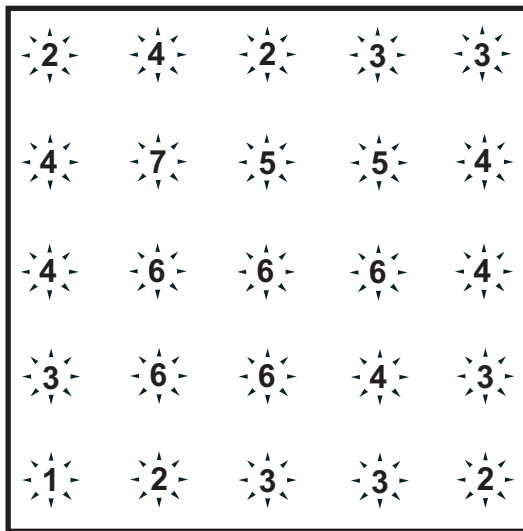
		5	3	6	2	2		
		3	0	0	3	0		
2	2	6	4	6	5	2	4	4
1	3	1	4	5	1	3	5	4
5	4	6	1	5	6	3	6	1
5	5	2	4	0	4	2	3	3
		0	6	1	1	0		
		1	6	0	0	2		

4. SPOKES

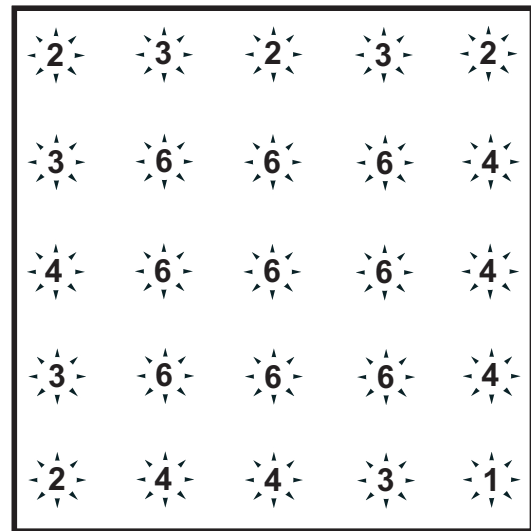
Draw spokes connecting neighboring hubs, horizontally, vertically and diagonally. The number in each hub indicates the number of spokes that connect to that hub. All hubs are interconnected, and spokes cannot cross one another.



20 points



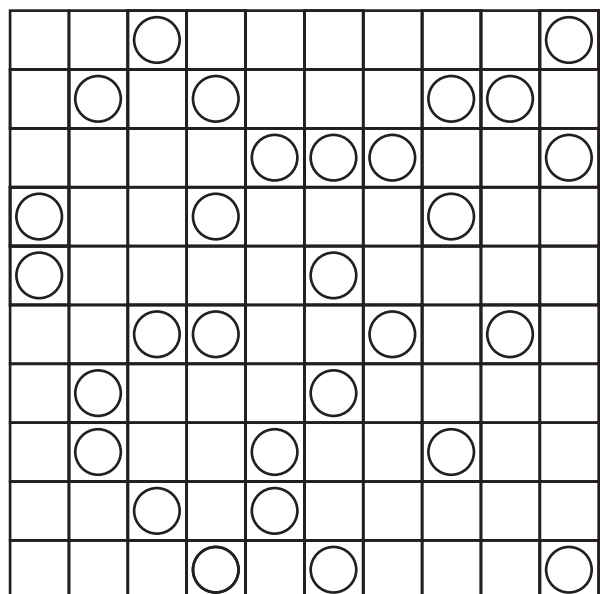
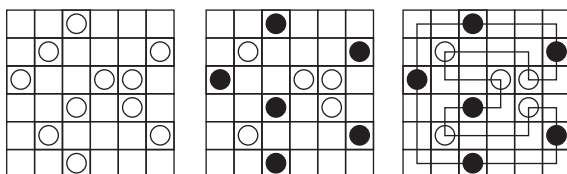
60 points



5. BLACK AND WHITE LOOP

3. BLACK AND WHITE LOOP
Colour all circles in specific columns. There is one coloured circle in each row. After that draw a single continuous loop, which passes through all circles and cells and never crosses. The line passes through colored circles without changing direction, while in the white circle it must change direction. Along the loop, between any two consecutive circles of any colour, the loop makes exactly one turn.

40 points



6. ARROWS

Draw arrows in the squares around the large square. Each square has one arrow and each arrow points at least to one number. The numbers show how many arrows point to them.

	3	5	5	3	4
	1	3	2	1	3
	4	1	0	2	5
	2	2	0	2	6
	2	3	4	3	4

20 points

70 points

		7	8	11	7	9	7	9	8	
		3	4	6	2	5	6	3	4	
		5	3	5	2	5	4	6	5	
		11	8	9	6	7	8	11	12	
		4	8	8	1	4	6	8	6	
		9	8	12	6	8	9	8	10	
		5	5	6	7	7	3	6	5	
		3	3	8	3	6	5	3	3	

	4	5	3
	5	1	0
	5	3	1

	↓	↓	↘	
→	4	5	3	←
↘	5	1	0	↘
↗	5	3	1	←
	↑	↘	↘	

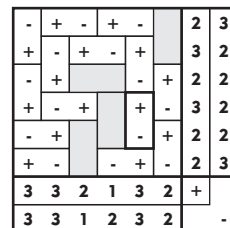
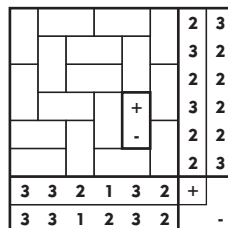
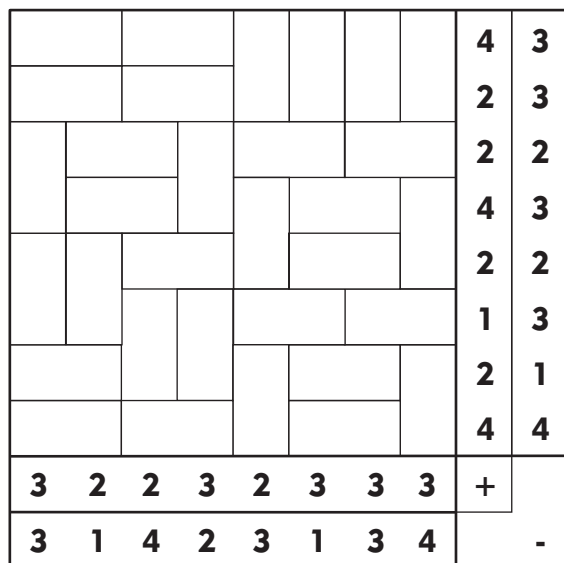
	6	3	0		
	9	4	3		
	12	9	6		

		↓	↓	↘		
		↓	↘	↘		
↖	↖	6	3	0	↗	↗
→	↖	9	4	3	↗	←
→	→	12	9	6	←	←
		↑	↖	↖		
		↑	↑	↘		

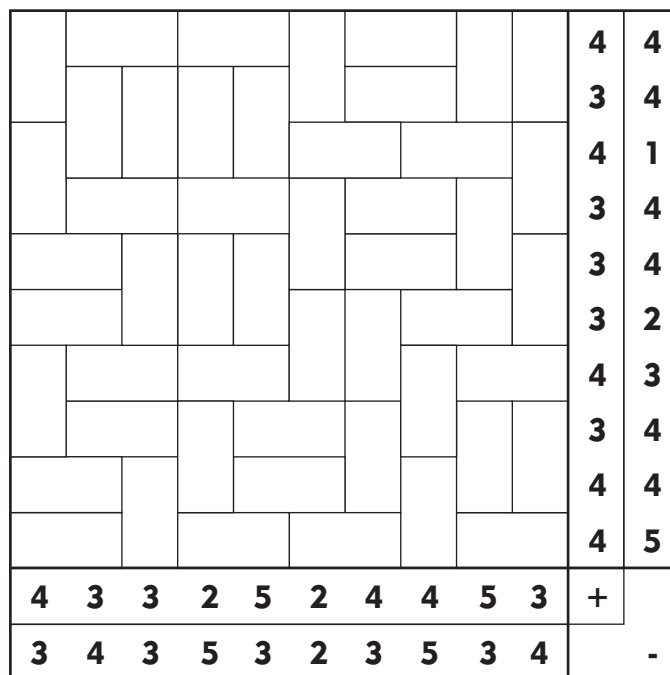
7. MAGNETS

The grid is made up of magnetic and non-magnetic plates. Each magnetic plate has two halves: one positive (+) and one negative (-). Halves with the same symbol cannot be connected horizontally or vertically. The numbers outside the grid indicate the number of magnetic halves in that particular row or column.

30 points



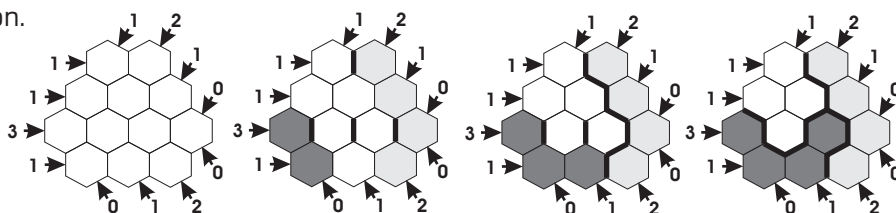
50 points



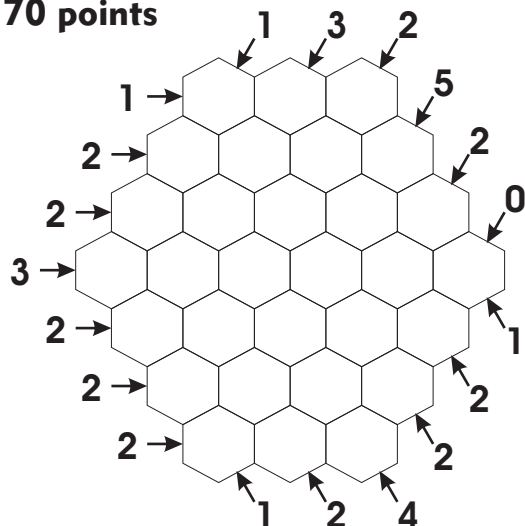
8. BARRIERS

Divide the given shape into six different pentaminoes. The numbers define the number of barriers in the corresponding direction.

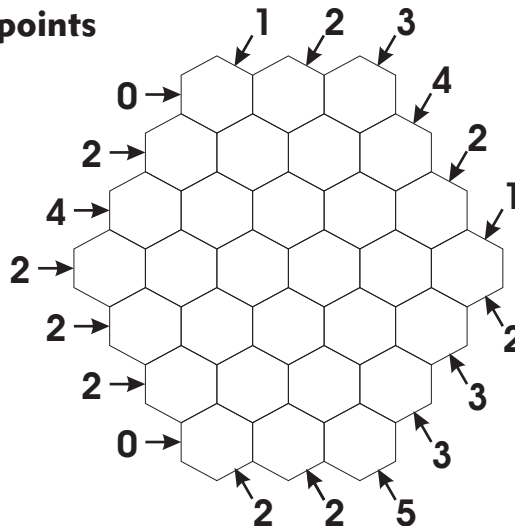
example: With three different tetramino.



70 points



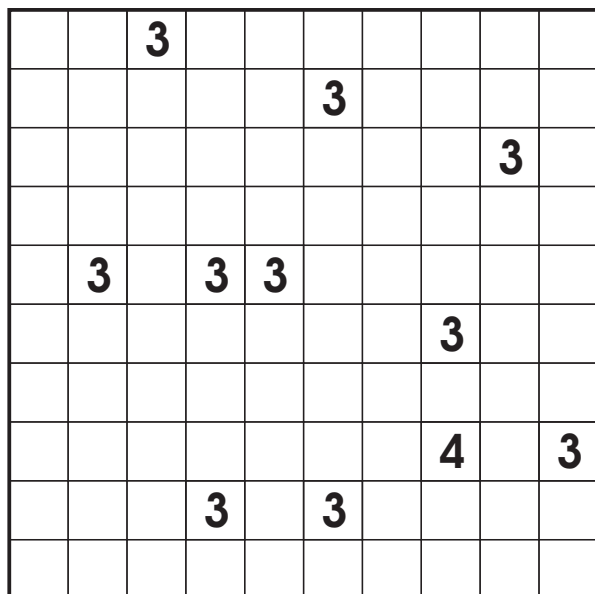
70 points



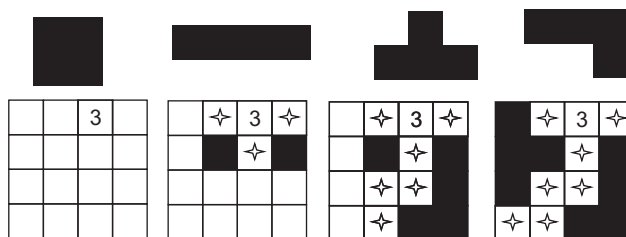
9. ISLANDS

Draw in nine different pentominoes (islands) in the given shape. The islands are surrounded with the water, and they don't touch each other, and every water area is interconnected. **Every** water cell that touches three or four other water cells **is marked** by number. The shape in size 2×2 (small squares) doesn't appear anywhere in the water area. Number is belong to water area.

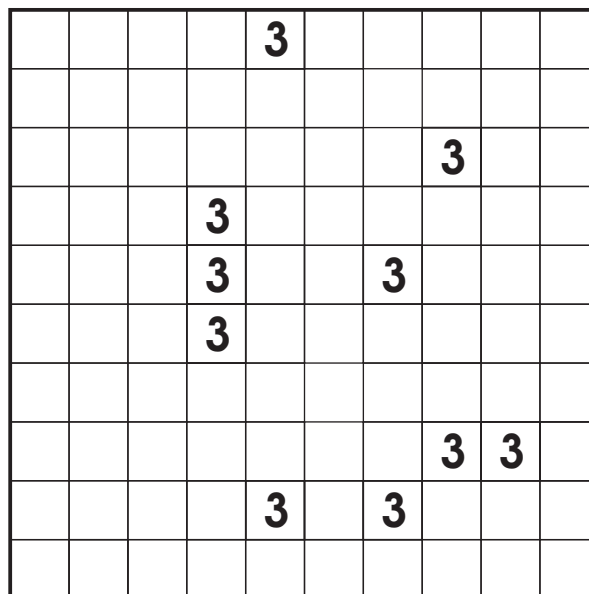
60 points



example: Fill with two different islands



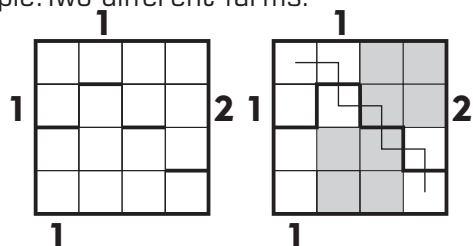
30 points



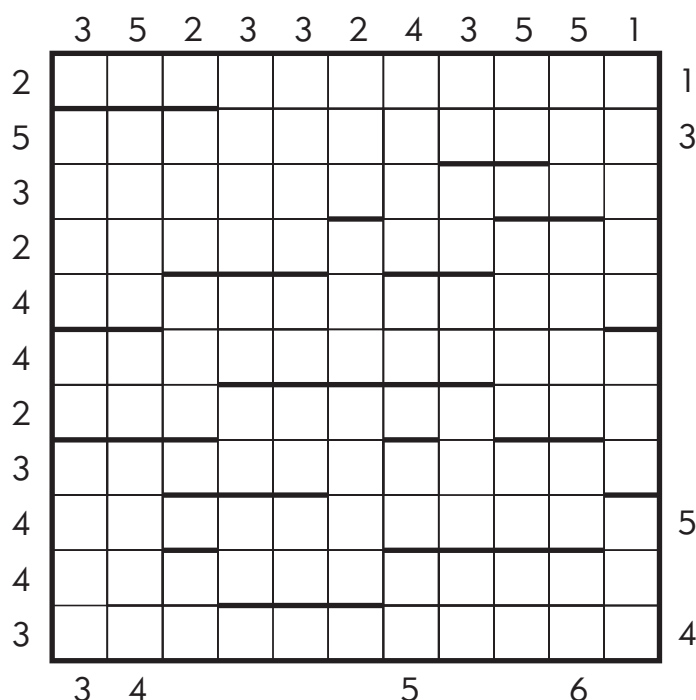
10. TOUR OF THE FIELDS

Draw in eleven farms (same size, different shape) and fields of the size 2×2 , with the condition that every farm has at least one field. Each field must be contained by a single farm. All horizontal fragments of farm boundaries are already placed. The numbers on the left and the top of the grid represent the number of the fields in the corresponding row/column and the numbers on the right and the bottom of the grid represent the number of road parts in the corresponding row/column. Find road which connect two corners and passes through exactly one cell of everyone fields. You may move only horizontally or vertically. The path may not cross itself.

example: Two different farms.



90 points



11. TRACTORS

Draw the given tractors in the grid three times. Tractors can only be mirrored (left - right). The numbers on the left and the top of the grid indicate the number of pentamino parts in the corresponding row/column and the numbers on the right and the bottom indicate the number of wheels in the corresponding row/column. The tractors can not touch each other, not even diagonally. Each square which contain any part of tractor can not touch neither square which contain any part of other tractor, not even diagonally.

- 50 points for correctly placing at least 3 tractors

- 100 points for correctly placing at least 6 tractors

- 200 points for a complete solution

example: Draw the given tractors in the grid one time.

