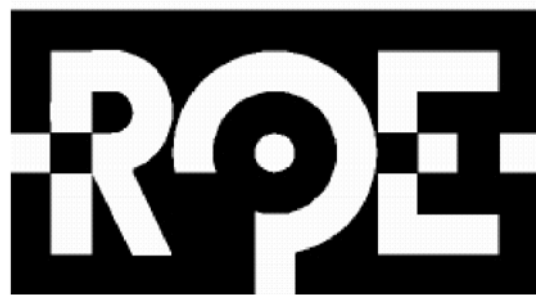




REJTVÉNYFEJTŐK



ORSZÁGOS EGYESÜLETE

# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER, 2007

HOTEL BENTA, BUDAPEST

# INSTRUCTION BOOKLET

EDITED BY: ZOLTÁN NÉMETH

PUZZLE AUTHORS:

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ZOLTÁN HORVÁTH  
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NIKOLA ŽIVANOVIĆ

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# SCORING SYSTEM

## DEFINITIONS

In what follows, the term „puzzle score” always refers to points achieved in a particular puzzle set (out of 1000), whereas „tournament score” describes the points system that actually counts and is based on the puzzle scores.

## THE OLD SYSTEM

Up until last year, the scoring system was placement based. Assuming 30 puzzlers, for any given puzzle set the winner received 30 tournament points, the runner-up received 29 tournament points and so on. Puzzle score ties were resolved by distributing the total number of tournament points the puzzlers would have received without a tie, i.e. for a tie at 3-4th places both puzzlers received 27.5 tournament points, whereas a triple tie between 5-7th placements yielded 25 tournament points for all three of them. Highest total wins.

As of 2007, this scoring system is discontinued and is replaced by...

## THE NEW SYSTEM

We introduce a scoring system that takes the puzzle scores into account to a greater extent. In each round, the winner will get 1 tournament point, with his result being the "maximum puzzle score" for that round. All other puzzlers get the amount of tournament points that is in the same proportion to 1 as their puzzle score is to the maximum puzzle score. Again, the highest total wins the competition.

*E.g. if Alice scores 800 points, Bob has 780 and Cecil 320, Alice will get 1.000, Bob will get 0.975 while Cecil ends up scoring 0.400 points.*

# TOURNAMENT TIMETABLE

FRIDAY	19:00–20:00	DINNER		
	20:00–21:00	QUESTIONS' HOUR I.		
SATURDAY	10:00–11:00	QUESTIONS' HOUR II.	<i>(no need to attend both)</i>	
	11:00	OFFICIAL START	<i>(rounds by authors below)</i>	
	11:00–12:40	NIKOLA ŽIVANOVIĆ		
	12:50–14:30	SERKAN YÜREKLI & GÜLCE ÖZKÜTÜK		
	14:40–16:20	ZOLTÁN HORVÁTH		
	16:30–18:10	LÁSZLÓ OSVALT		
	18:30–20:10	ZOLTÁN GYIMESI		
	20:20–22:00	SALIH ALAN & AZIZ ATEŞ		
	22:10–23:50	ZOLTÁN JAKABFI		
SUNDAY	00:00–01:40	SINIŠA HRGA		
	01:50–03:30	GYULA SLENKER		
	03:50–05:30	CIHAN ALTAY		
	05:40–07:20	LÁSZLÓ G. NAGY		
	07:30–09:10	LÁSZLÓ MÉRŐ		
	09:20–11:00	BERNHARD SECKINGER		
	CONTINUOUSLY	BOGLÁR MAJOR		
		12:00–ONWARDS	FINAL CEREMONY	



NAME:

COUNTRY:

POINTS:



# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

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HOTEL BENTA

BUDAPEST

PUZZLES BY:

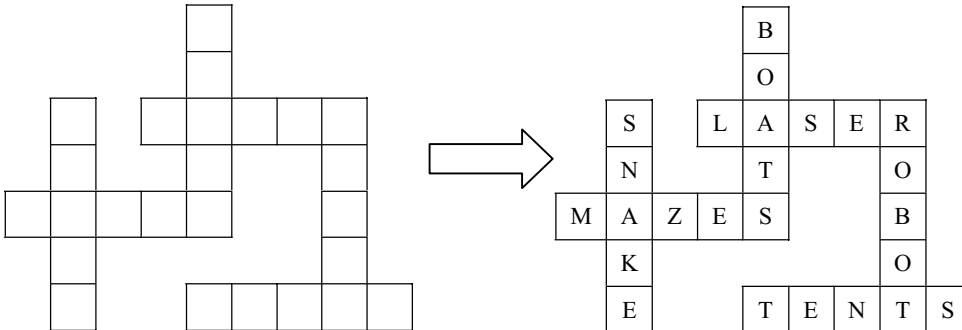
**NIKOLA ZIVANOVIC**

NAMES OF PUZZLES	75
MAGIC SNAIL	70 (35+35)
SUMS	40 (10+30)
SUDOKU EXTRA-REGIONS	125 (30+35+60)
SQUARES	70 (35+35)
JAPANESE SNAKE	35
LOGIC PYRAMID	90 (30+60)
PRODUCTS	60 (30+30)
CLASSIC BATTLESHIPS	30
NO NEIGHBOURS	80
PENTOMINO DE-FENCES	85
EASY AS DOMINO	105 (45+60)
CUT BY NUMBERS	45
WORD SEARCH SUDOKU	90
total	1000 points

## 1. NAMES OF PUZZLES (75)

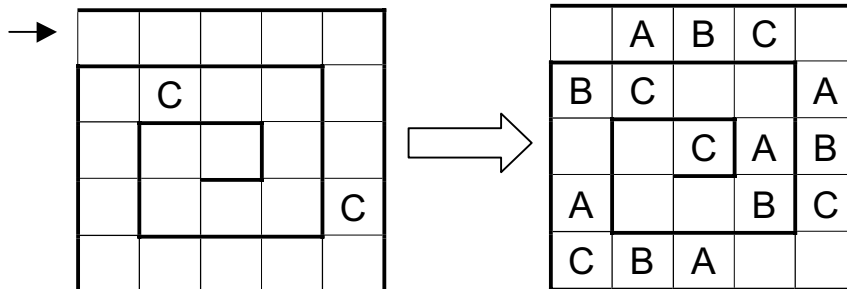
Fill the following words in the crossword.

BOATS  
LASER  
MAZES  
ROBOT  
SNAKE  
TENTS



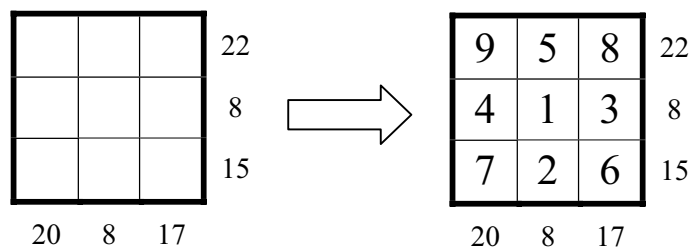
## 2. MAGIC SNAIL (35+35)

Write A, B and C letters into the grid so that in each row and column every letters appear exactly once. Along the snail, from outside towards the middle the order of the the letters must be A-B-C-A-B-C-...-A-B-C.



## 3. SUMS (10+30)

Place the numbers from 1 to 9 (1 to 16 in the second puzzle) into the grid. Numbers outside the grid show the sums of the numbers in that row or column.

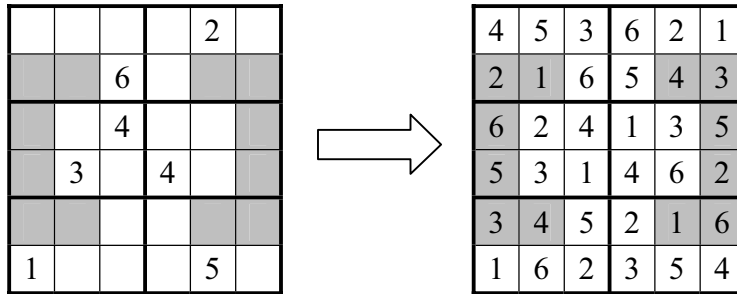


			22
			8
			15
20	8	17	

9	5	8	22
4	1	3	8
7	2	6	15
20	8	17	

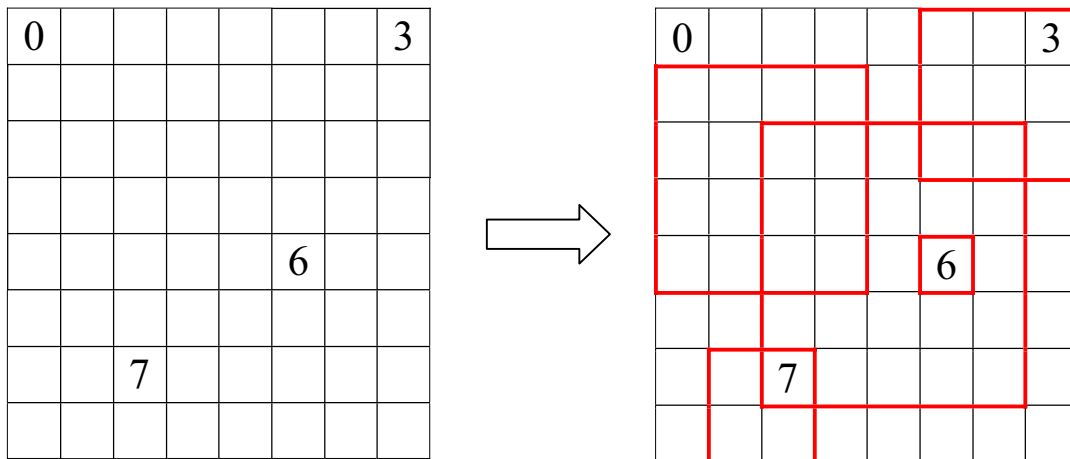
#### 4. SUDOKU EXTRA-REGIONS (30+35+60)

Fill in the grid so that every row, column, box, and two-tone extra-regions contains all different digits (in the example 1 through 6).



#### 5. SQUARES (35+35)

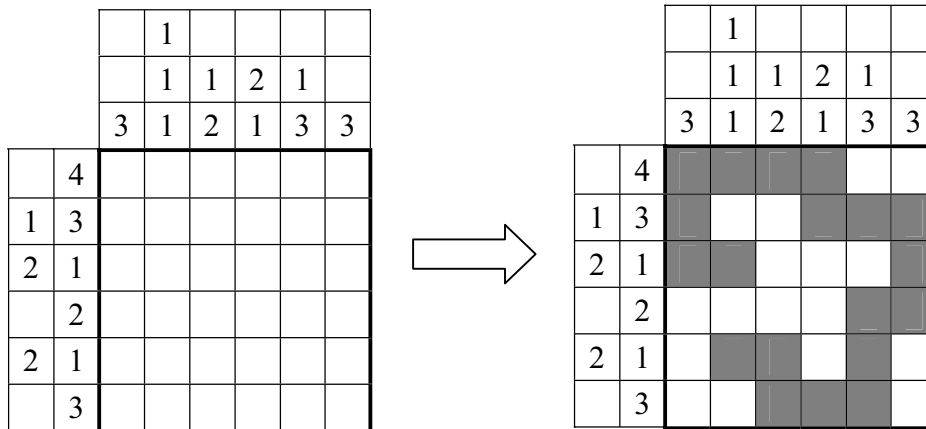
In each grid, draw five squares, along the grid-lines, with the sides from 1 to 5. Squares can cross each other, but cannot share the corners or the sides, even partially. Numbers inside the grid show the sums of sides of squares covering the cell with number.





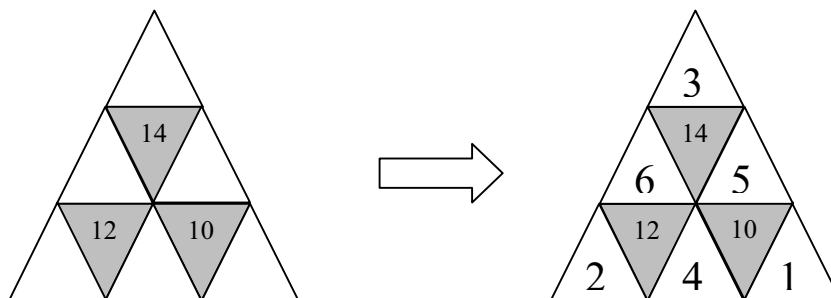
## 6. JAPANESE SNAKE (35)

Draw in the diagram a snake, 45 cells long (19 in the example), not touching itself even diagonally. Numbers show the size of areas of consecutive cells filled by snake. The black regions are separated by at least one empty cell.



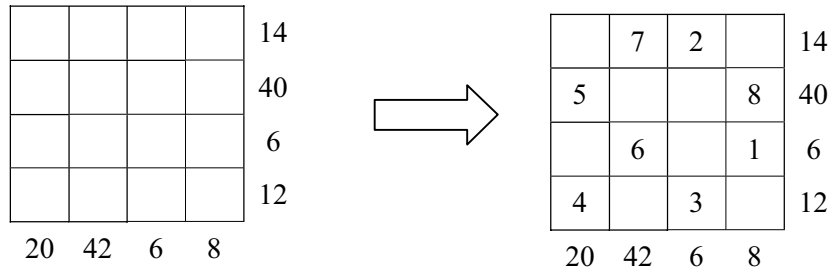
## 7. LOGIC PYRAMID (30+60)

Place the numbers 1-10 (1-15 in the second puzzle) into the white triangles (in the example 1-6), once each, so that the sum of any three numbers surrounding a grey triangle equals to the number written into the grey triangle.



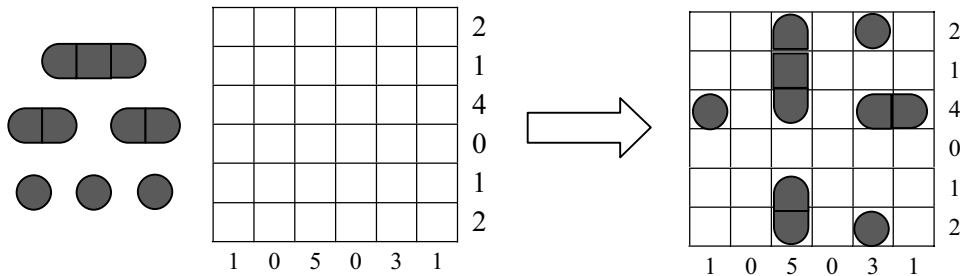
## 8. PRODUCTS (30+30)

Place the numbers from 1 to 20 into the grid so that in each row and column appear exactly two numbers. Values outside the grids show the product of these two numbers.



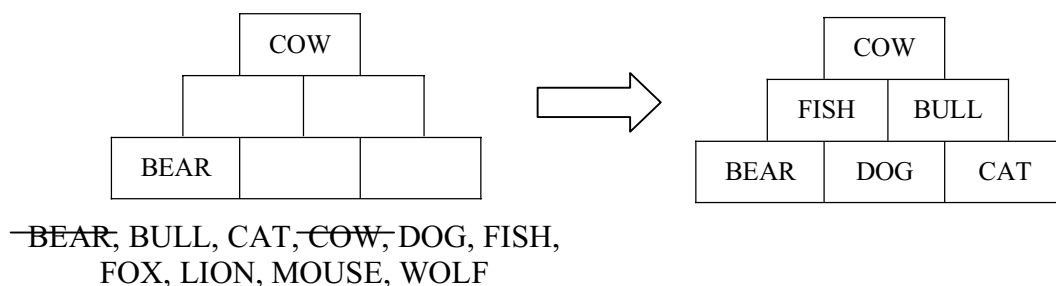
## 9. CLASSIC BATTLESHIPS (30)

Locate the position of the fleet shown next to the grid. The ships do not touch each other, not even diagonally. The numbers outside the grid indicate how many cells in that row or column contain parts of ships.



## 10. NO NEIGHBOURS (80)

Put the words into the grid. The neighbouring sections must not contain the same letter. Some words will be left over.

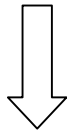


# 11. PENTOMINO DE-FENCES (85)

Place in the two grids complete pentomino set. Pieces can be rotated and/or reflected. Numbers in the grids show the number of sides of the cell used by pentomino.

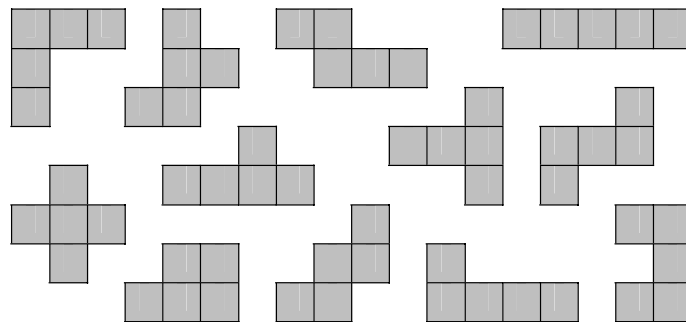
3			0	2		3
				2	2	
0						
				3		
					1	3
						2

					3	2
					0	
				0	2	
3						
3		3	2			



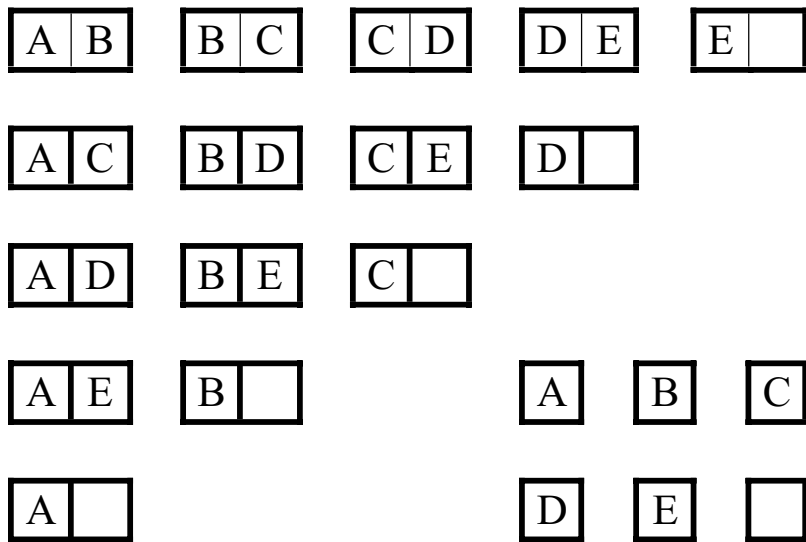
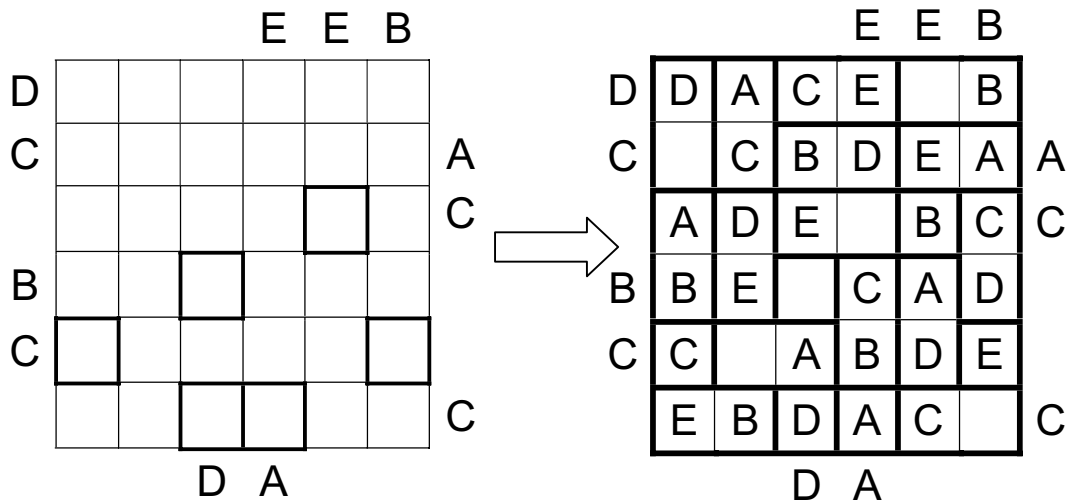
3			0	2		3
				2	2	
0						
				3		
					1	3
						2

					3	2
					0	
				0	2	
3						
3		3	2			



## 12. EASY AS DOMINO (45+60)

Place 6 stones and 15 dominoes into the grid so that each row or column contain all different letters. The letters outside the grid is appear first in that row or column. All stones are already marked.





NAME:

POINTS:



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BUDAPEST

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PUZZLES BY

**SERKAN YUREKLI & GULCE OZKUTUK**

1. Piscopone	75 points (35+40)
2. Tapa	90 points (30+60)
3. Slash Pack	55 points
4. Overlapping Battleships	95 points
5. Sightseeing	40 points
6. Cup Of Tea	45 points
7. Comet	105 points
8. Operations Sudoku	80 points
9. Snake	95 points (30+65)
10. Hard As XYZ	45 points
11. Section	20 points (10+10)
12. Polygraph	75 points
13. Hexa	50 points (10+40)
14. Busy As ABC	20 points (10+10)
15. Tetroscope	35 points
16. Snowflake	75 points (15+60)



### 1. Piscapone

Place the numbered blocks in the grid without any rotations. Same numbers must be connected to each other horizontally, vertically or diagonally.

35+40 Points

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

	2	4
2		
1		
4	1	


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

### 2. Tapa

Paint some squares black to create a continuous wall. Number/s in a square indicate the length of black cell blocks on its neighbouring cells. If there is more than one number in a square, there must be at least one white cell between the black cell blocks. Painted cells cannot form a 2x2 square or larger. There are no wall segments on grey cells, or cells containing numbers. Some segments of the wall are given.

30+60 Points

				2/2
2/2			3/3	
		3		
		1/1		

				2/2
2/2			3/3	
		3		
		1/1		

### 3. Slash Pack

Divide the grid into shapes, using only the diagonals of the squares, without any loose ends. Each shape must contain numbers from 1 to 5. Two diagonals cannot cross in one square.

55 Points

	1			
3		1		2
2		1		3
	2	3		

	1			
3		1		2
2		1		3
	2	3		



### 4. Overlapping Battleships

Overlapping the given three shapes without rotating or turning over, obtain a diagram that includes the regular battleships fleet. Numbers on sides indicate the number of ship segments on the corresponding rows or columns. Ships cannot touch each other, not even diagonally.

Draw your solution on the given grid. Do not show the shape borders, locating the entire fleet will be enough.

**95 Points**

### 5. Sightseeing

Following figure is the front view of an object which is cut from a 3x3x3 cube. How many different objects give this front view? Cuts only go along the surfaces separating unit cubes and there is no cut behind sight.

6

**40 Points**

### 6. Cup Of Tea

Place the given teacups in the grid without touching each other, not even diagonally. The cups contain tea and different amounts of sugar, and are formed of words "TEA" and "SUGAR". "SUGAR"s are connected to "TEA"s from the side and should be written as "SUGAR" moving side-to-side starting from the connection, without touching itself, even at a point. Sugars in one cup also cannot touch each other, not even diagonally.



**45 Points**

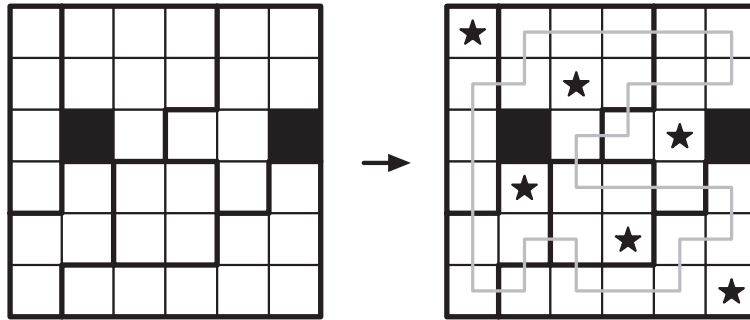




### 7. Comet

Place some stars in the grid so that there are exactly two stars in every row, column and outlined region. Stars cannot touch each other, not even diagonally. Additionally, all remaining cells must be traversed by a single closed loop, enclosing exactly half of the stars. There are no stars or loop segments on black cells.

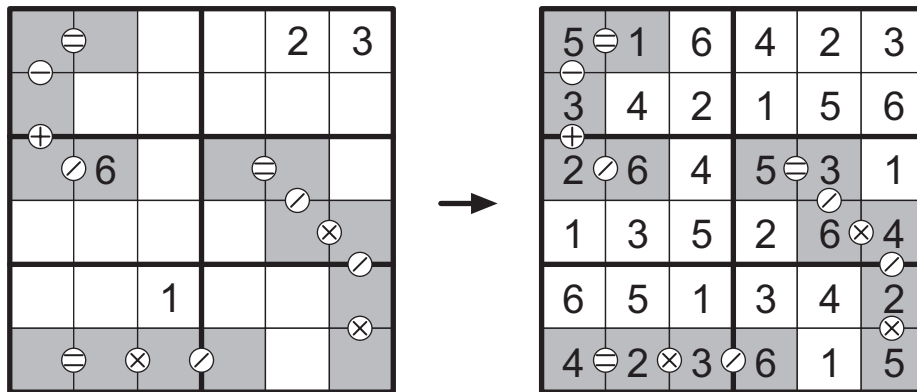
**105 Points**



### 8. Operations Sudoku

Solve the Sudoku puzzle considering the classical Sudoku rules. Each grey region contains a mathematical equation, that always ends with a digit right after an equality sign, and uses every grey square exactly once. The operation priority does not hold (e.g.  $1+2 \times 3$  equals 9, not 7).

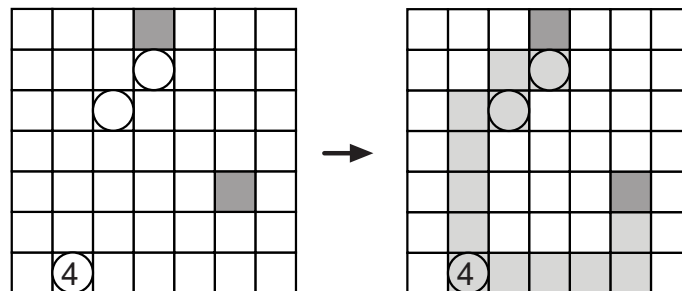
**80 Points**



### 9. Snake

Moving horizontally or vertically, draw a snake that doesn't touch or cross itself, not even diagonally. Snake's head and tail are given as two grey cells. Each given circle is a corner of the snake formed of two segments (meeting at that corner) with the same length. Some circles contain numbers which give the length of each segment.

**30+65 Points**

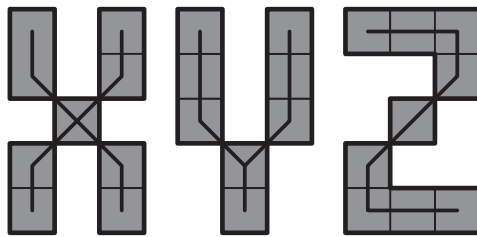
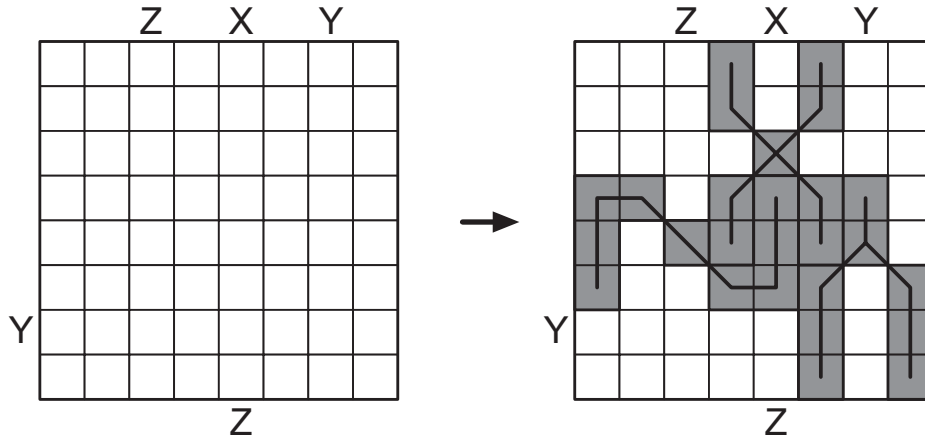




### 10. Hard As XYZ

Locate two sets of figures X,Y,Z into the grid so that the letters outside the grid indicate the first letter that appears from the corresponding direction. Figures can be rotated, but not reflected. Lines forming the letter shapes cannot overlap.

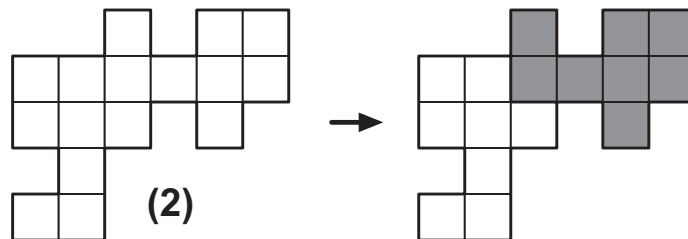
**45 Points**



### 11. Section

Divide the figures into the given number of identical pieces. Pieces can be rotated and/or mirrored.

**10+10 Points**

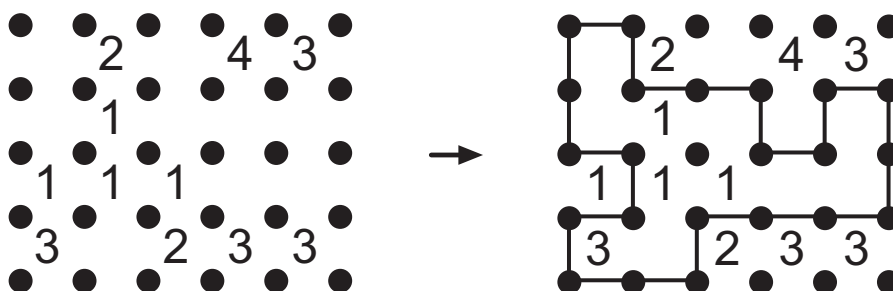




## 12. Polygraph

Draw a single continuous loop by connecting neighbouring dots horizontally or vertically. The clues inside the loop indicate the number of its edges used by the loop. The clues outside the loop indicate the number of its edges NOT used by the loop (namely, empty edges).

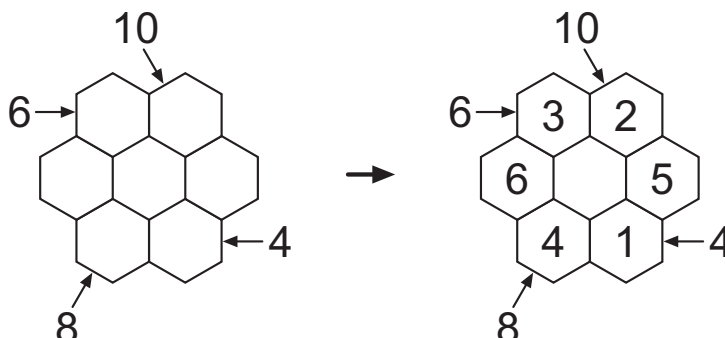
75 Points



## 13. Hexa

Place numbers from 1-10 (1-14 for the second puzzle) into the grid. There must be two numbers in every row and diagonal. Numbers outside the grid indicate the product of the numbers in the corresponding direction.

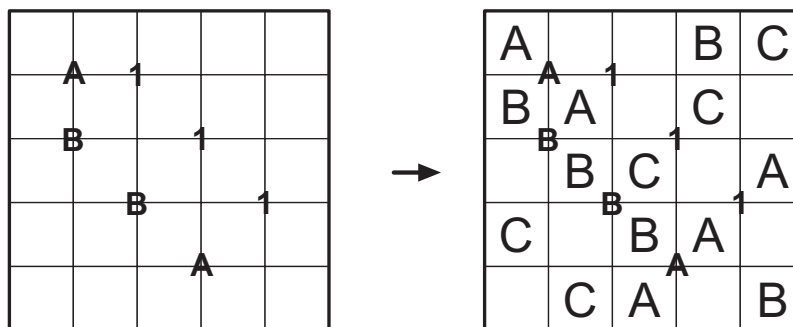
10+40 Points



## 14. Busy As ABC

Fill the grid with letters A, B and C so that each letter occurs exactly once in every row and column. Letters inside the grid indicate which letter occurs most in its neighbouring squares. Numbers inside the grid indicate how many different letters occur in its neighbouring squares.

10+10 Points

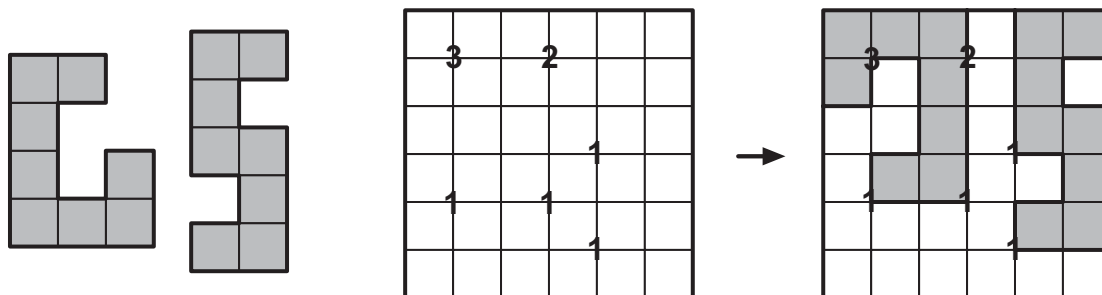




### 15. Tetroscope

Place the given tetrominoes in the diagram using each tetromino exactly once. Pieces can be rotated but not mirrored. Numbers inside the grid indicate the amount of occupied cells in the neighbouring squares. Tetrominoes cannot touch each other, not even diagonally.

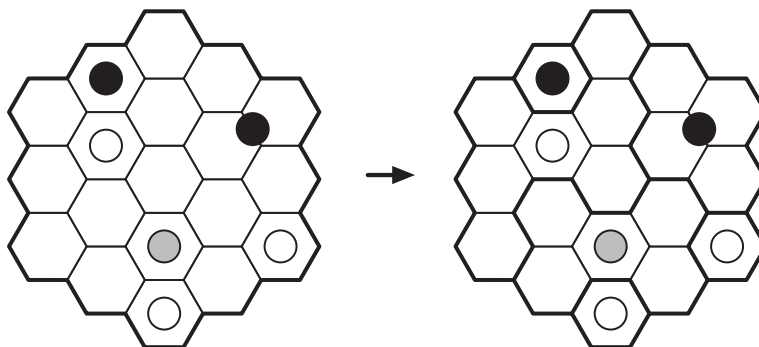
**35 Points**



### 16. Snowflake

Following the grid lines, divide the whole grid into shapes of various sizes. Each shape must have rotational symmetry and there must be exactly one circle inside each shape, representing its point of symmetry. Shapes containing the same colours of circles cannot touch each other, not even at a point.

**15+60 Points**



NAME:

POINTS:



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HOTEL BENTA

BUDAPEST

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PUZZLES BY

**ZOLTÁN HORVÁTH**

Warm up	40 points (15 + 25)
Dutch loop	110 points (5+5+10+25+30+35)
Valued capsules	20 points (10+10)
Hexa tent camp	80 points (20+60)
Dissections	70 points
Tiger in the Woods	70 points (10+10+20+30)
Pearls	35 points (10+25)
Toroidal sudoku	150 points
Pyramid	45 points (15+30)
Loop in the hexagon	55 points (5+10+15+25)
Fences in the cave	115 points (20+20+35+40)
Dotted snakes	105 points (20+85)
New-style labirynt	75 points (5+10+35+25)
Simple tent camp	30 points (5+25)



### Warm up

Write numbers between 1 and 9 into the empty cells so that each number occurs at least once and the marked relation become true.

$$\square \square \square * \square \square \square = \square 4 6 5 \square \square$$

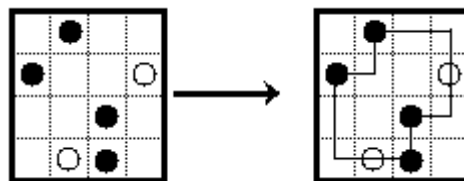
**15+25points**

$$2 6 7 * 5 4 9 = 1 4 6 5 8 3$$

### Dutch loop

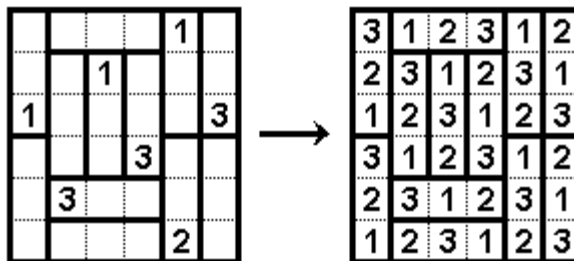
Draw a loop that has no ends or breaks. The loop's line turns at the black circles and passes straight at the white circles. The loop's line cannot go diagonally and cannot overlap or intersect itself. The loop does not necessarily pass through all squares.

**5+5+10+25+30+35points**



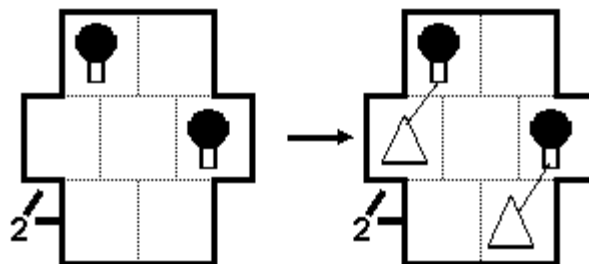
### Valued capsules

Put numbers between 1-3 into the empty squares so that each of them appears the same number of times in each row or column. No two neighbouring square may contain identical numbers. Moreover, each capsule (marked by thick lines) contains each number exactly once. **10+10points**



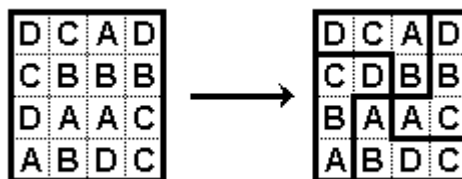
### Hexa tent camp

The figure shows a tent camp planted trees. Each tent is connected to one tree. Tents cannot touch each other. A tent may be next to a tree even if it is not connected to it. The number outside the diagram shows the sum of the tents in that two directions altogether. Mark the place of the tents. **20+60points**



### Dissection

Divide the grid into four congruent shapes, each containing just different letters. **70points**





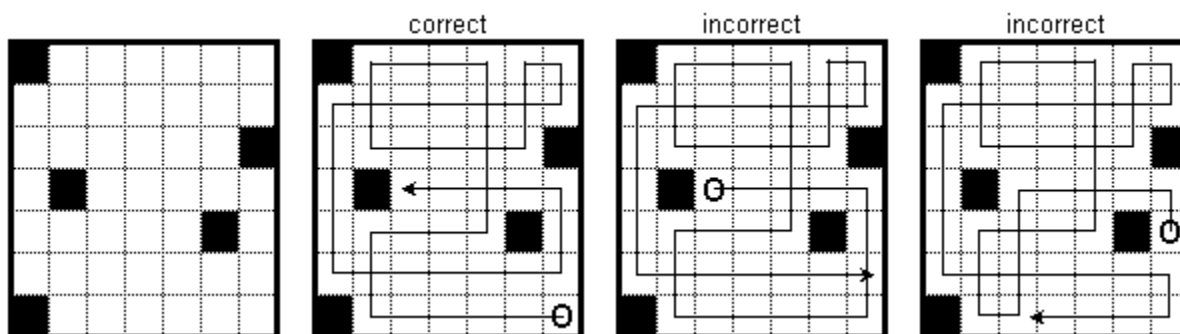
### Tiger in the Woods

Draw a line into each figure with keeping the rules below.

The line:

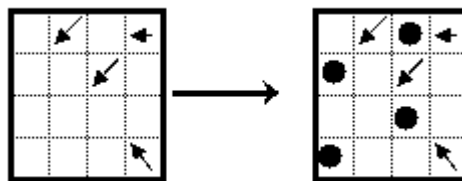
- must pass all white squares
- can only contain horizontal and vertical fragments
- can start and end in any white square
- can intersect but cannot overlap itself
- must be drawn so that whenever it switches direction, that must be kept until hitting either a wall or a black square
- cannot pass twice in the starting or ending field

**10+10+20+30points**



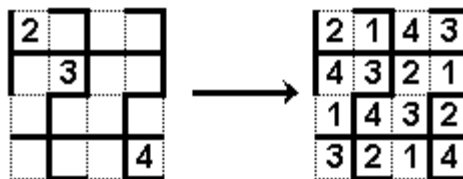
### Pearls

Draw a few pearls into the figure. The pearls cannot touch each other, not even diagonally. Each arrow is pointing at exactly one pearl, and each pearl is pointed at by exactly one arrow. **10+25points**



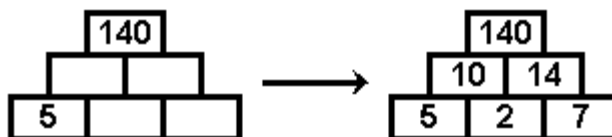
### Toroidal sudoku

Fill in the grid so that every row, every column, and every outlined region contains the digits 1 through 9. Some of the outlined regions will wrap between the top and bottom edges, and/or the left and right edges of the grid. **150points**



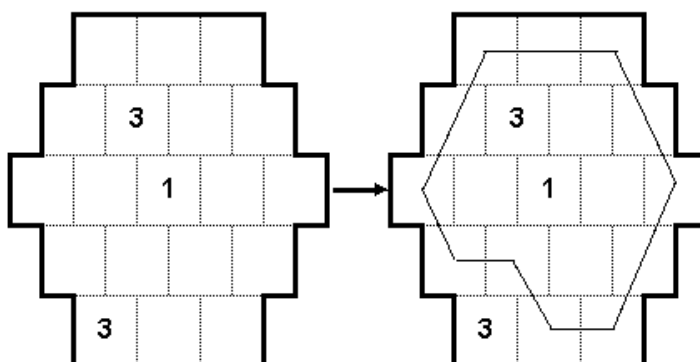
### Pyramid

Fill in the free spaces of the diagram such that the numbers in the squares are always the product of the two below them. The first row consists one digits numbers. **15+30points**



### Loop in the hexagon

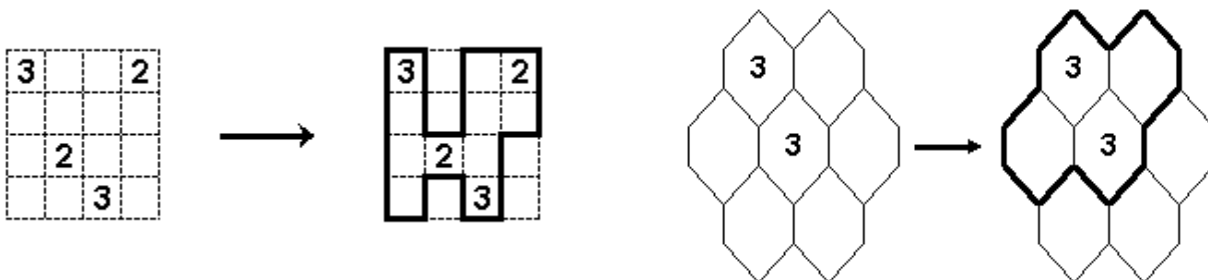
Each hexagonal grid below contains a loop of adjacent hexagons in which no sharp turns are ever made (there is only 120 and 180 degree turn). The numbers in the grid indicate how many of the adjacent hexagons contain part of the path. The path does not go through any numbered hexagons. **5+10+15+25points**





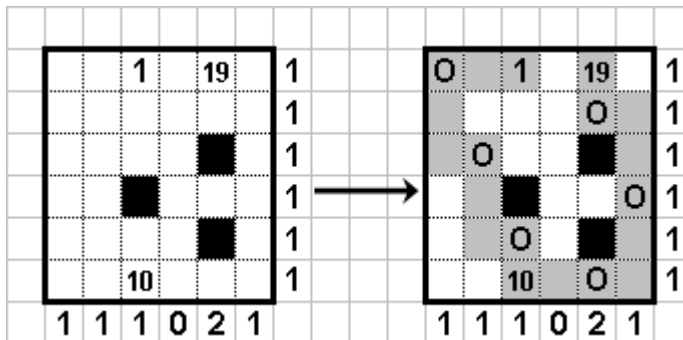
### Fences in the cave

Draw a single closed loop along the edges. All numbers are inside the loop. Numbers have a dual meaning in this puzzle. Firstly, they reveal the number of loop segments adjacent to them, similarly to the classical Fences puzzle. Secondly, considering the loop's interior a cave, they also reveal how many squares are visible within the cave from the square the number is in (which is not included). **20+20+35+40points**



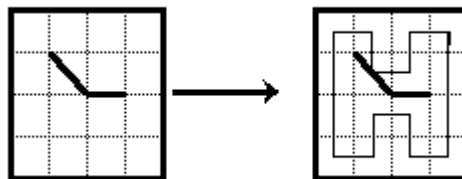
### Dotted snake

There is a 31 (in the biggest grid 45) units long snake hiding in the grid. The body of the snake cannot touch itself, not even diagonally. Every THIRD square (3, 6, 9 etc.) of the snake has a dot on it. Numbers outside the grid reveal how many dots of the snake are in the corresponding row or column. The head and tail squares of the snake are given. **20+85points**



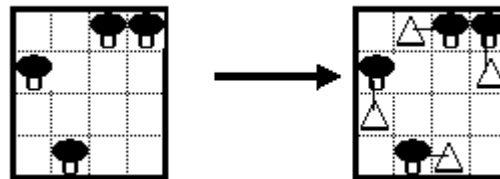
### New-style labyrinth

Draw a single continuous loop that travels through all the squares exactly once. It only travels horizontally or vertically and never crosses the given thick lines. **5+10+35+25points**



### Simple tent camp

The figure shows a tent camp planted trees. Each tent is connected to one tree. Tents cannot touch each other, not even diagonally. A tent may be next to a tree even if it is not connected to it. Mark the place of the tents. **5+25points**





# Instruction Booklet

László Osvalt

*8<sup>th</sup> 24-hour puzzle championship*

**2007**

<i>Jumping Crossword</i> .....	<b>90*</b>
<i>Sudoku By Letters</i> .....	<b>45 (15+30)</b>
<i>Paint It Black</i> .....	<b>60</b>
<i>Black It!</i> .....	<b>30</b>
<i>Snake – Straights &amp; Curves</i> .....	<b>110 (25+30+55)</b>
<i>Battleship By Words</i> .....	<b>80 (30+50)</b>
<i>ABC</i> .....	<b>85*</b>
<i>From A To C</i> .....	<b>80</b>
<i>Balanced</i> .....	<b>70 (35+35)</b>
<i>Detail Search</i> .....	<b>30* (10 x 3)</b>
<i>2/5 Pentomino</i> .....	<b>65</b>
<i>ABC-Pathfinder</i> .....	<b>55 (20+35)</b>
<i>Hexa Tetris</i> .....	<b>115 (40+75)</b>
<i>FenceSnake</i> .....	<b>55 (20+35)</b>
<i>Dissection</i> .....	<b>30</b>

*\* Partial scores in one puzzle are available*

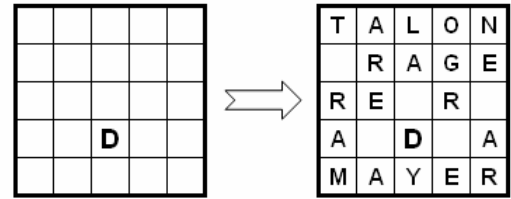
# JUMPING CROSSWORD

90 POINTS

(1-3 ERRORS: HALF SCORE)

Place the listed words into the grid. The words may jump over some squares, even the first or the last ones, but never more than just one for one jump. The jumped squares, however, are also jumped by the word coming across. The jumps are not indicated in the listed words. The jumped fields are included in the given lengths. All letters "D" are given in advance.

Example:



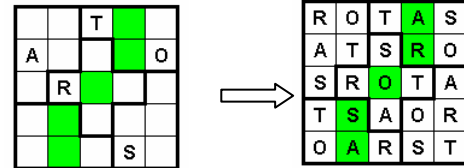
ADA, AREA, LADY, MAYER, NEAR, OGRE, RAGE, RER, TALON, TRAM.

# SUDOKU BY LETTERS

45 POINTS (15 + 30)

Write the given letters into the empty fields so that each letter occurs in all rows, columns and the sections bordered by bold lines exactly once. If the puzzles are correctly solved, a phrase (1<sup>st</sup>) and a name (2<sup>nd</sup>) appears in the marked fields.

Example:

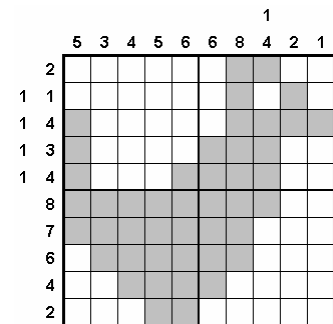


# PAINT IT BLACK

60 POINTS

The numbers on the left of each row and the top of each column tell how many continuous groups of black squares there are in that line, and, in order, how many consecutive black squares are in each group. Between two groups of black squares there is at least one, but maybe more white square. The rows may optionally also start or end by some white squares. In case of correct solution, a picture emerges in the figure.

Example:

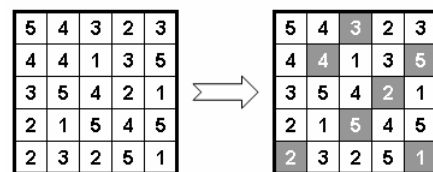


# BLACK IT!

30 POINTS

Blacken out some squares in such a way that the following conditions are satisfied: 1. No same number may twice in same row or column appear. 2. Blackened squares cannot touch, at best diagonally. 3. All white squares must be interconnected horizontally or vertically.

Example:

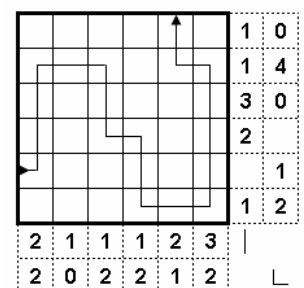


# SNAKE – STRAIGHTS & CURVES

110 POINTS (25 + 30 + 55)

A 45 square long snake is hiding in the grid. Its head and tail are given. The first numbers outside the grid indicate the number of the squares occupied by the snake's *straight sections* the seconds indicate the number of the snake's *turning sections* in the correspondent row or column. The body of the snake cannot touch itself, not even diagonally. The fields marked by "~" mark remain empty.

Example:

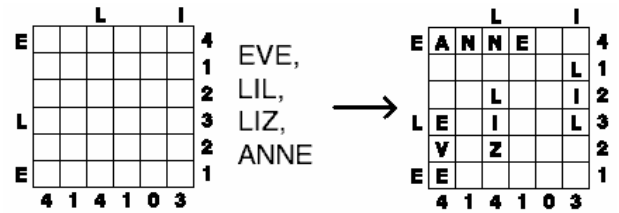


# BATTLESHIP BY WORDS

80 POINTS (30 + 50)

Place the listed words into the grid in a way that the squares used by the words must not be neighbouring – not even diagonally – with squares used by another name. Words can be lying only horizontally or vertically. The numbers outside the grid show how many letters must be in the certain row or column. There are some letters outside the grid, too. These letters must be placed at least once in that row or column.

Example:



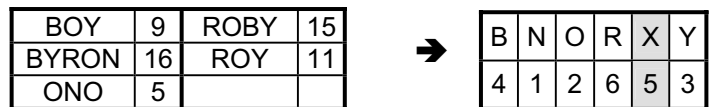
# ABC

85 POINTS

10 POINTS / EACH 3 FOUND LETTERS (EXCEPT 2 ONES GIVEN IN ADVANCE) + 5 POINTS FOR V

Each letter of the ABC covers different integer values between 1 and 26. Find values for all letters by reason of their given sums. As an extra task, find the value of undefined letter V.

Example (1–6, X as extra):

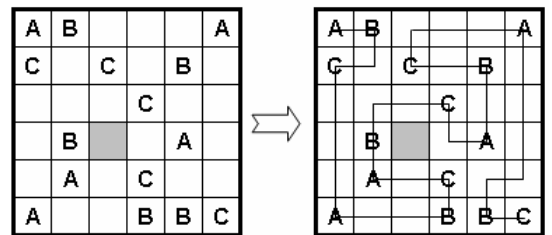


# FROM A TO C

80 POINTS

Find a path from the top left corner to the bottom right corner. The path can travel horizontally or vertically and it passes through all white squares but never crosses itself. Reading the letters in the order they are visited gives the repetition of A-B-C-A-B-C...

Example:

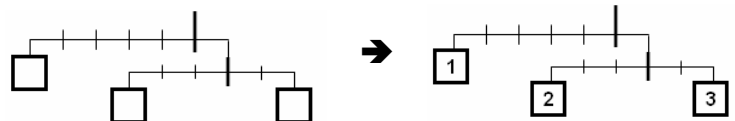


# BALANCED

70 POINTS (35 + 35)

Each drawing symbolizes a scale. Give value the weights marked by rectangles. You have to use all the whole numbers between 1 and 5 (1–7 in the second puzzle). Each weight must be used exactly once. The ropes and bars are supposed to have no weight.

Example:



# DETAIL SEARCH

30 POINTS

(3 POINTS FOR EACH DETAIL FOUND)

Find the given 10 details of the picture, and write down their coordinate. The pieces may be rotated, but not mirrored.

Example:





NAME:

POINTS:



# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER 2007

HOTEL BENTA

BUDAPEST

PUZZLES BY (UNLESS STATED OTHERWISE):

INTERNATIONAL CHESS GRANDMASTER

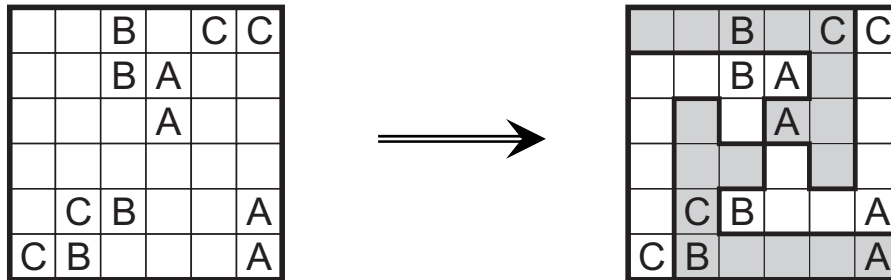
**ZOLTÁN GYIMESI**

Dissection	10 points
Coral Finder	30 points
SAKK Diagonal Side View	45 points (15+30)
SAKK Snail with Side View	65 points (25+40)
Queens' (and Knights') Park	75 points (25+25+25)
Chess Battleships	80 points (30+50)
Knights' Battle	120 points (30+40+50)
Dotted Pentomino	120 points (40+40+40)
Password Path	150 points (30+30+90)
Grandmaster Valuation	150 points
Chess Tournament	155 points (25+40+90)
<b>Total</b>	<b>1000 points</b>

## DISSECTION (10 POINTS)

Divide the given shape into several congruent parts so that each part contains each figure exactly once. Division lines are only allowed to follow the horizontal and vertical grid lines. Parts may be rotated but not reflected relative to each other.

Example:

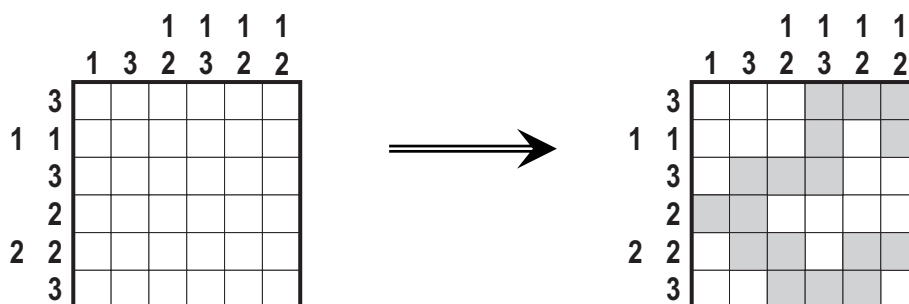


PUZZLE BY ZOLTÁN NÉMETH

## CORAL FINDER (30 POINTS)

Select a connected set of squares – the coral – so that it does not touch itself, not even diagonally. Numbers outside the grid indicate the lengths of consecutive parts of the coral in the given row or column (similarly as in the "Paint it black" puzzles). However, numbers belonging to the same row or column are in increasing order and not in the order they appear. No 2x2 area may be covered by the coral.

Example:

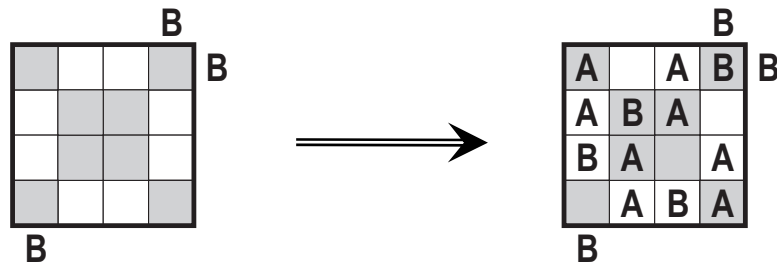


## SAKK DIAGONAL SIDE VIEW (15+30 POINTS)

Fill in the grid such that each row, each column and both main diagonals contain each letter of the word SAKK exactly once. Letters outside the grid reveal the first letter of the given row or column from that direction.

*In the example, letters of the word AAB are used.*

Example:



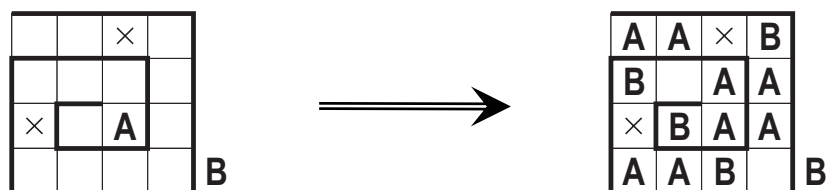
## SAKK SNAIL WITH SIDE VIEW (25+40 POINTS)

Fill in the grid such that each row and each column contains each letter of the word SAKK exactly once. Squares containing X cannot contain any other letter. Letters outside the grid reveal the first letter of the given row or column from that direction.

Along the snail, from the outer end towards the centre, the order of the letters visited must be S-A-K-K-S-A-K-K-...

*In the example, letters of the word AAB are used.*

Example:



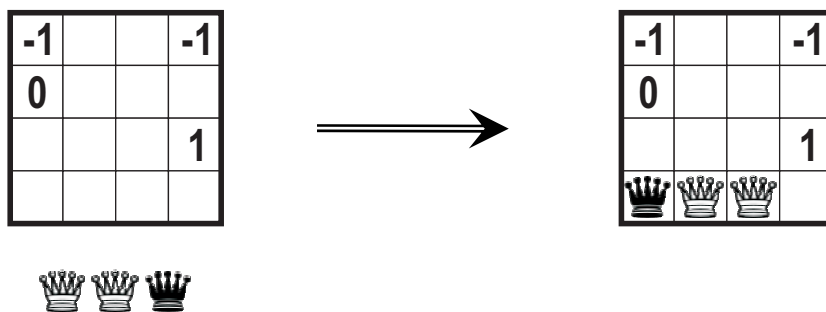
## QUEENS' (AND KNIGHTS') PARK (25+25+25 POINTS)

Find the given chess pieces in the figure so that none of them stands on a number. White pieces are considered attacking, whereas Black is defending. Numbers equal to the attack count of their square, i.e. the number of attacking pieces minus the number of defending ones.

*Given that none of the puzzles contains more than one black piece, a -1 obviously means that a black piece defends the square and none of the white ones attacks it. However, a 0 could mean either one attacking (white) and one defending (black) piece or none at all.*

Numbers do not block pieces from attacking or defending squares beyond them. Other pieces, however, do provide such blocking.

Example:

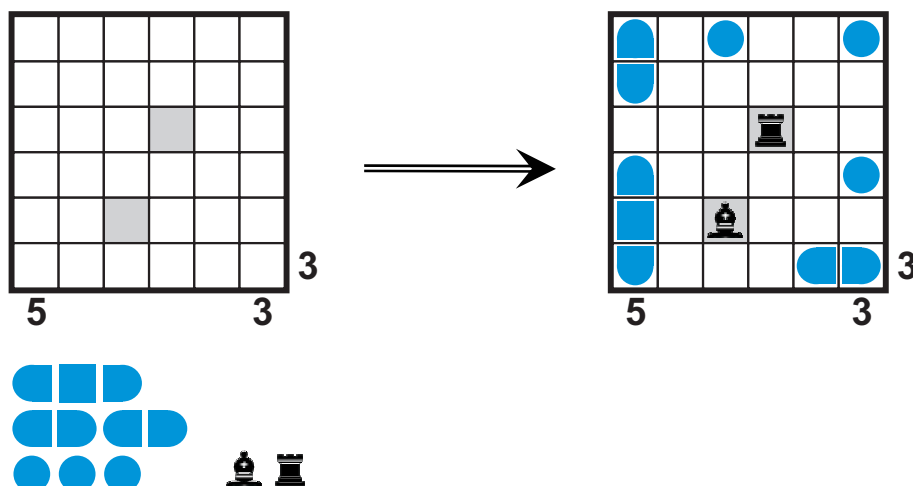


## CHESS BATTLESHIPS (30+50 POINTS)

Put five chess pieces: a king (K), a queen (Q), a rook (R), a bishop (B) and a knight (N) into the grey cells so that none of them attack (defend) each other. Then find the ships of the fleet. Ships do not touch each other, not even diagonally. Ships do not touch the chess pieces either, not even diagonally. Moreover, no part of any ship is attacked by any of the chess pieces.

Numbers outside reveal the number of ship segments in the given row or column. *In the example, a different fleet and only the Bishop and the Rook are used.*

Example:

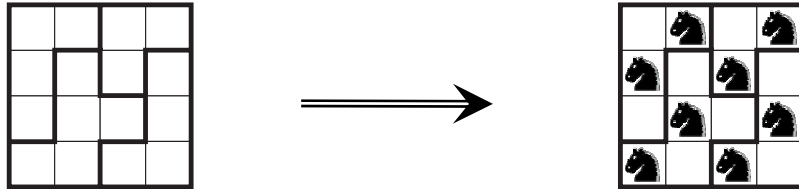




## KNIGHTS' BATTLE (30+40+50 POINTS)

Put some Knights into the figure such that each row, each column and each area (marked by thick lines) contains exactly two of them. Knights may be occupying neighbouring squares, but they cannot attack (defend) each other.

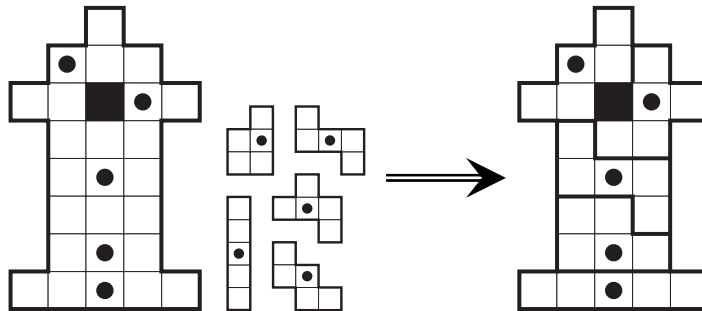
Example:



## DOTTED PENTOMINO (40+40+40 POINTS)

Find the twelve pentominoes in the given shapes. Pentominoes may be rotated but may not be reflected. The positions of their dots are given.

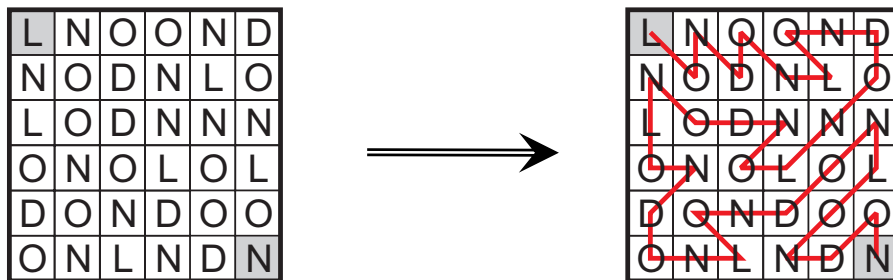
Example:



## PASSWORD PATH (30+30+90 POINTS)

Find a path from the top left corner to the bottom right corner. The path can travel horizontally, vertically or diagonally and it passes through all squares but never crosses itself. Reading the letters in the order they are visited gives the repetition of the letters of the given password.

Example:



Password: LONDON

## GRANDMASTER VALUATION (150 POINTS)

All the numbers between 1 and 26 have been encoded into letters. Different letters denote different numbers. A value of a word means the sum of the numbers its letters encode.

Values for the names of a few chess players are given below. The order of surname and given name(s) is the same as the order their value is shown.

What are the values of the words QUEEN and KING?

Example:

ECCE, ABBA = 18, 6

AC, DC = 6, 8

What is the value of BAD?

Solution: BAD = 6 (A=1, B=2, C=5, D=3, E=4).

## CHESS TOURNAMENT (25+40+90 POINTS)

The figure below shows the cross-table of a single all-play-all chess tournament (i.e. everyone played one game against everyone else). However, some of the scores and sums have been erased. Fill in match results, total scores and Berger scores with the following kept in mind:

- A result can be 1-0,  $\frac{1}{2}$ - $\frac{1}{2}$  or 0-1. It has to be written into both halves of the table.
- Total score is simply the sum of the game results.
- The Berger score of any player is the sum of the scores of opponents they have defeated plus half the sum of the scores of opponents they have drawn against.
- Players are ordered by their total score. Highest on top, lowest on the bottom. Players with the same total score are ordered by their Berger score: the higher the better.
- No two players are tied after taking Berger score into account.

Example:

	A	B	C	Score	BS
1. A					
2. B					<b>0,5</b>
3. C					

⇒

	A	B	C	Score	BS
1. A		1	X	1,5	1,25
2. B	0		1	1	<b>0,5</b>
3. C	X	0		0,5	0,75

NAME:

POINTS:



# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER 2007

HOTEL BENTA

BUDAPEST

PUZZLES BY:

**AZİZ ATEŞ**  
**SALİH ALAN**

4 x 4 Puzzle	25/50/80/125 points
Chain Puzzle	25/50/80/125 points
Number-Letter Connection	65 points (25+40)
Easy as Digital ABCD	95 points (45+50)
Digital Skyscrapers	80 points (40+40)
Hexagonal Kakuro	95 points
Honey Seven	30 points
Hexagonal Digit Figures	65 points
Folded Loopfinder	65 points
Four Winds in Blocks	70 points
Grapes	45 points (20+25)
Snake	60 points (30+30)
Scaled Balance	80 points

---

**Total 1000 points**

# 8TH 24 HOURS PUZZLE CHAMPIONSHIP

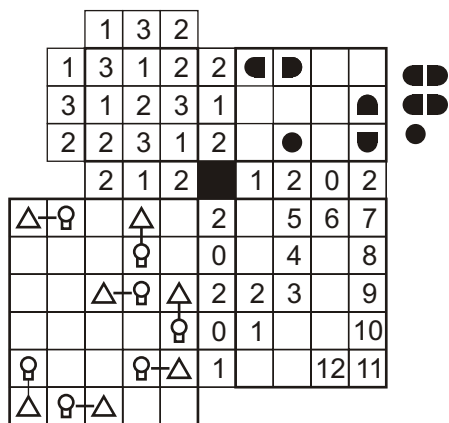
PUZZLES BY AZIZ ATEŞ & SALIH ALAN

## INSTRUCTIONS

### 4 X 4 PUZZLE (125 POINTS)

4 different puzzles are connected with common hints. The puzzles are Skyscrapers, Battleships, Tents, Snake (30 squares length, 12 in the example). Hints between two puzzles are valid for both puzzles. In the example, the number „1” between skyscrapers and battleships shows that one skyscraper is seen from that side and also there is one part of a ship on that row. 1 Puzzle solved: 25 points, 2 puzzles solved: 50 points, 3 puzzles solved: 80 points, all puzzles solved: 125 points. To get partial points, your answer must be part of the complete solution.

Example:

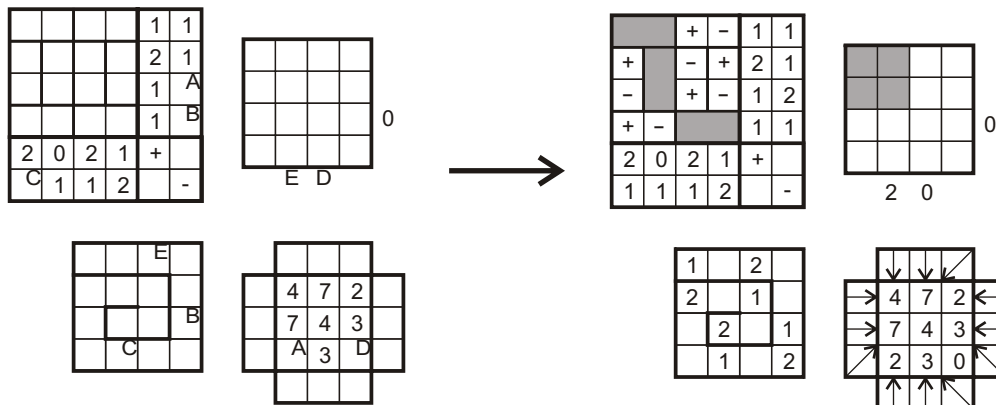


The hints above the black square show how many Skyscrapers can be seen in that direction, and also how many parts of ships there are on that row. The hints on the right hand side of the black square show how many parts of ships there are on that column, and also how many corner the Snake has on that column. The hint below the black square show how many corner the Snake has on that row, and also how many tents there are on that row. The hints on the left hand side of the black square show how many Skyscrapers can be seen in that direction, and also how many tents there are on that column.

### CHAIN PUZZLE (125 POINTS)

4 different puzzles are connected with common hints. The puzzles are Magnets, Arrows, Spiral 1234 and Clouds. The squares with the same letters include the same numbers. In the example, the squares with the letter „A” include the number 2 in both Magnets and Arrows problems. 1 Puzzle solved: 25 points, 2 puzzles solved: 50 points, 3 puzzles solved: 80 points, all puzzles solved: 125 points. To get partial points, your answer must be part of the complete solution.

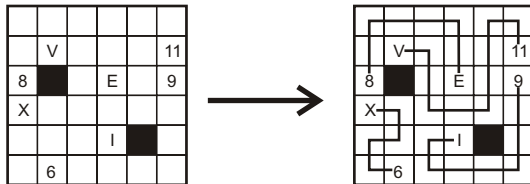
Example:



## NUMBER-LETTER CONNECTION (25+40 POINTS)

Connect each number to a letter that is included in the written form of the number by a line, which may be broken. The line must pass, horizontally or vertically, through squares as much the number connected, including the squares with the number and the letter. No lines pass through the black squares and all the other squares has exactly one line passing through it.

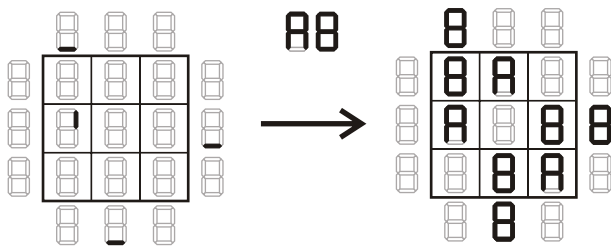
Example:



## EASY AS DIGITAL ABCD (45+50 POINTS)

Place the digital letters A, B, C and D, such that every letter appears exactly once in each row and column of the diagram. The digital letters outside the grid show the letter seen first from that side. Parts of some letters are given as hints.

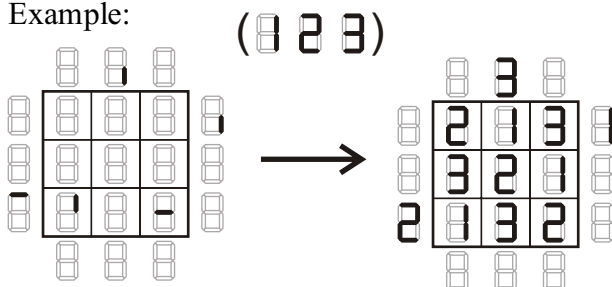
Example:



## DIGITAL SKYSCRAPERS (40+40 POINTS)

Place the digital numbers 1 to 5, such that every number appears exactly once in each row and column of the diagram. The numbers show the height of the skyscrapers. The digital numbers outside the grid give the number of skyscrapers seen from that side. Parts of some numbers are given as hints.

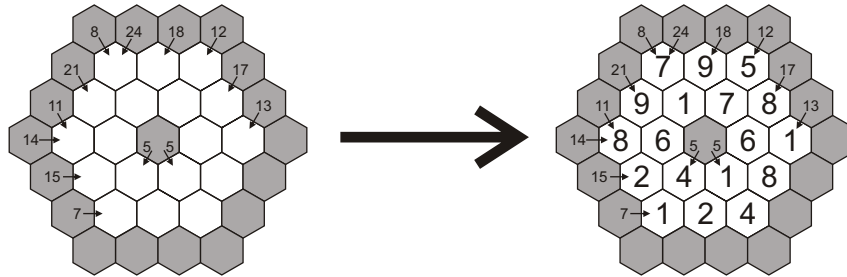
Example:



## HEXAGONAL KAKURO (95POINTS)

Place numbers 1 to 9 to each empty hexagons such that all the given numbers with arrows show the sum of the numbers upto grey cells in that direction. In each sum, the numbers are all different.

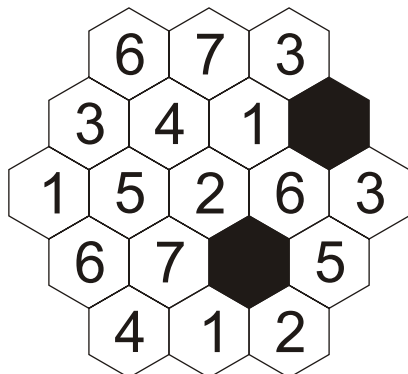
Example:



## HONEY SEVEN (30 POINTS)

Place numbers 1 to 7 to each empty hexagons such that the number in a white cell and in its neighbours are different.

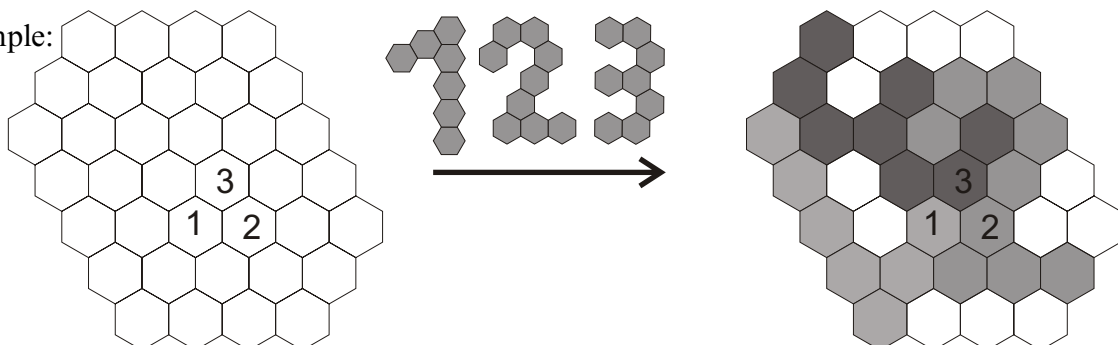
Example:



## HEXAGONAL DIGIT FIGURES (65 POINTS)

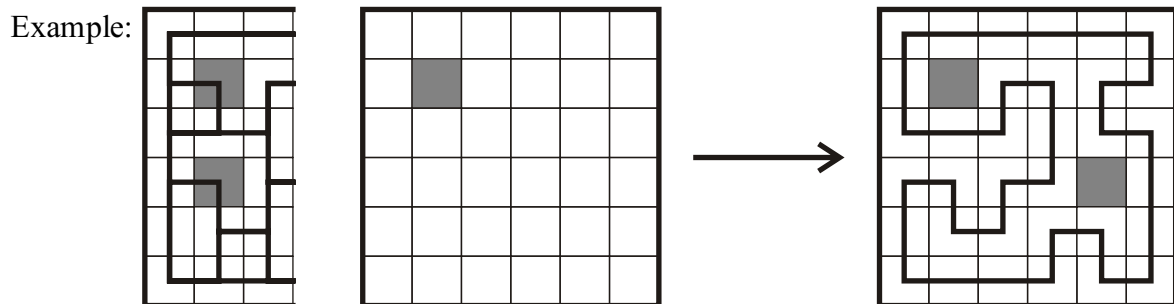
Place all the given number figures to the hexagonal grid such that each number given in the grid is included by its figure. Figures can be rotated but not mirrored. Figures cannot overlap.

Example:



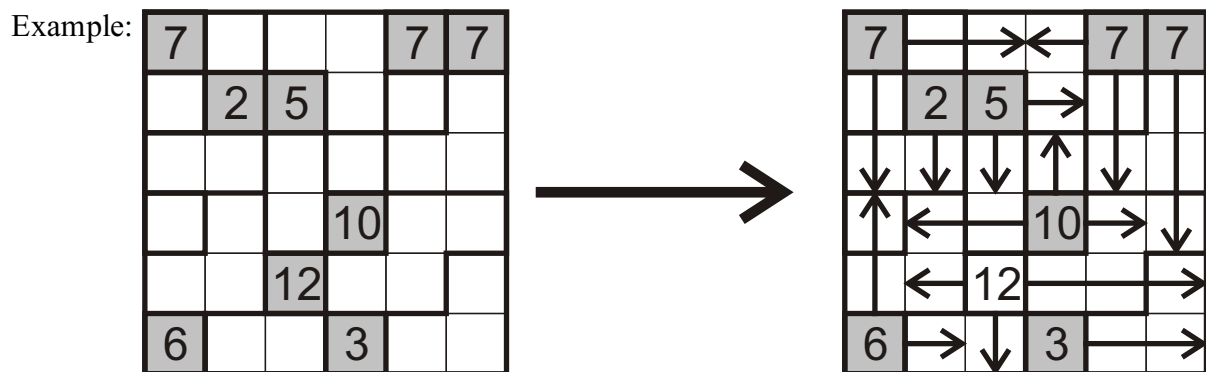
## FOLDED LOOPFINDER (65 POINTS)

The diagram on the left shows the image of the solution of a loopfinder puzzle on a transparent paper, but folded. Find the solution of the loopfinder puzzle.



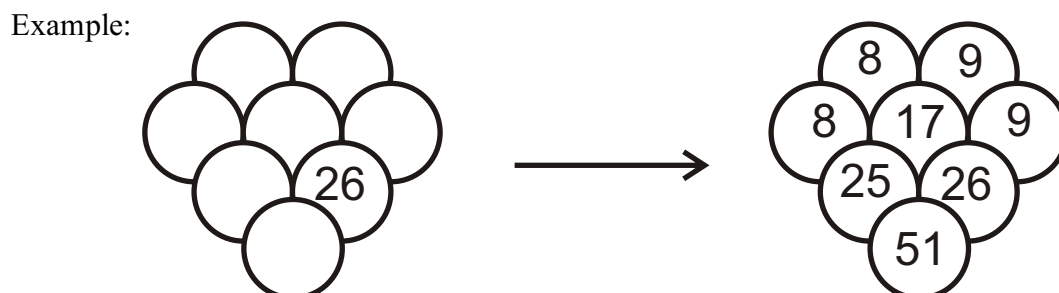
## FOUR WINDS IN BLOCKS (70 POINTS)

Draw lines starting from the squares containing numbers. The numbers always show the sum of the areas of the blocks over which the lines that start from that number pass. Every empty square has only one line passing through it.



## GRAPES (20+25 POINTS)

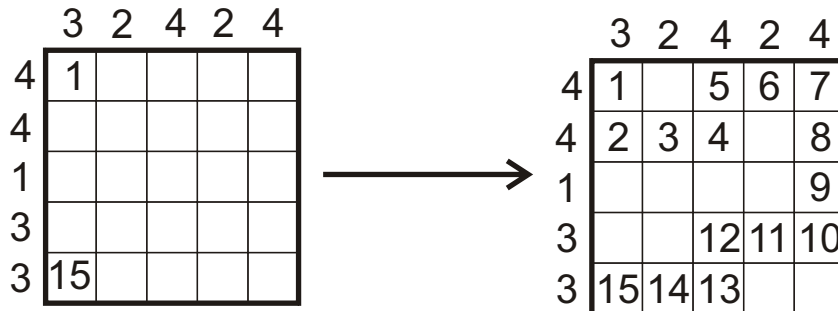
The number in each grape (circle) is always the total of the neighbouring whole positive numbers from the line above. All numbers in the grapes on the top line in each puzzle are different one-digit numbers. Fill in the missing numbers.



## SNAKE (30+30 POINTS)

A 45 unit long snake is hidden in each grid. Head and tail of each snake is given. The numbers outside the grid shows the number of the snake parts on that row or column. The snake cannot touch itself, not even diagonally.

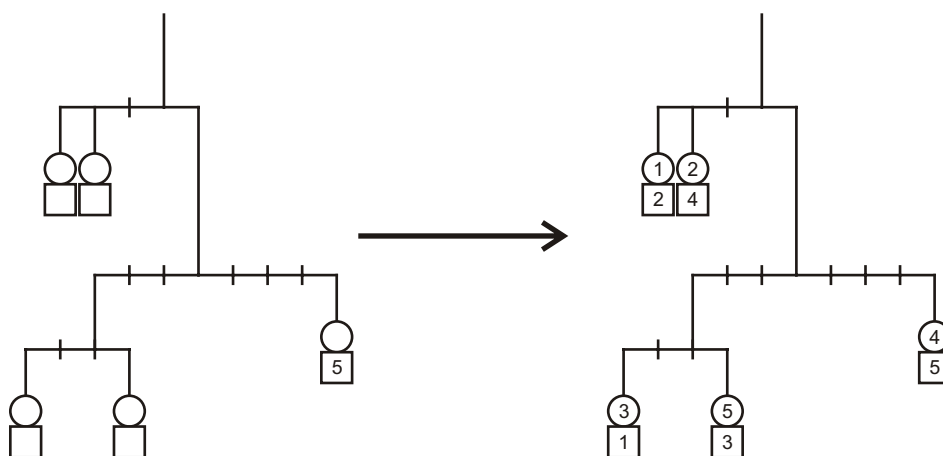
Example:



## SCALED BALANCE (80 POINTS)

Place 10 masses to 10 scales to balance the system. Masses have weights 1 to 10 kilograms. Similarly, scales have weights 1 to 10 kilograms. A mass cannot be placed to a scale that has the same weight. Ignore the weights of the bars and the ropes.

Example:





Name:

Points:



8th 24 Hours Puzzle Championship  
17-18 November, 2007  
Hotel Benta, Budapest

Puzzles by  
Zoltán Jakabfi

Molecules	30	15+15
Hidden Rectangles	50	20+30
Hexa Paint	70	15+15+20+20
Tetris Fences	80	40+40
Tetris Cover	60	60
Crack It On	90	30+60
Japanese Sums	70	70
DominoKakuro	110	40+70
Password Find	90	45+45
Word Snail	90	30+60
TwinMagnets	60	60
Half Suits	110	40+70
Japanese Arrows	90	20+30+40
Total	1000	

## Molecules

There are 13 molecules of water (H<sub>2</sub>O) in the grid, composed of two atoms of hydrogen (H) and one atom of oxygen (O). Locate positions of the atoms of oxygen, provided that atoms of oxygen cannot touch, not even diagonally. Connected atoms may lie only in horizontally or vertically neighbouring squares.

	H	H	
H		H	H
H			
	H	H	

O	H	H	O
H		H	H
H		O	
O	H	H	

## Hidden Rectangles

Divide the grid into non-overlapping rectangles. A rectangle may contain a number (only one) or may remain empty. A number in a rectangle indicates the area size of that rectangle. Empty rectangles may not touch each other, not even diagonally, and their size is at least 3.

6			3
		9	

6			3
		9	

## Hexa Paint

Paint some of the cells in the grid, so that the number in a cell indicates how many cells of its neighbours (including itself) are painted.

	3	2
2	3	2
2	1	

	3	2
2	3	2
2	1	

## Tetris Fences

Place the tetris elements into the grid, so that the numbers indicate the number of line segments adjacent to it. Elements can be rotated, but cannot be reflected; and don't touch each other not even diagonally.

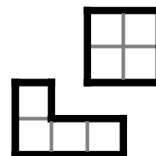


	3		
			3

	3		
			3

## Tetris Cover

Place the given set of elements into the grid so that they do not touch each other, not even diagonally. An item may be rotated but not reflected and it must cover different numbers.



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

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

## Crack It On

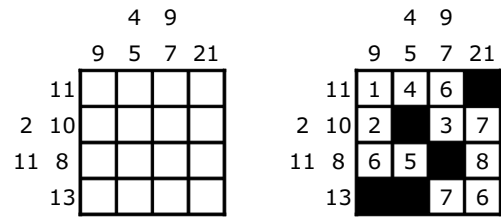
Put all the given words into the grid(s) in a way that each area should contain exactly one letter and the words are to be read in every row and column using each area in that row or column once.


ALT, ART,  
FAL, FAT,  
IFA, IMA,  
MAA, MAR

I	F		A
M	A		R
A	L		T

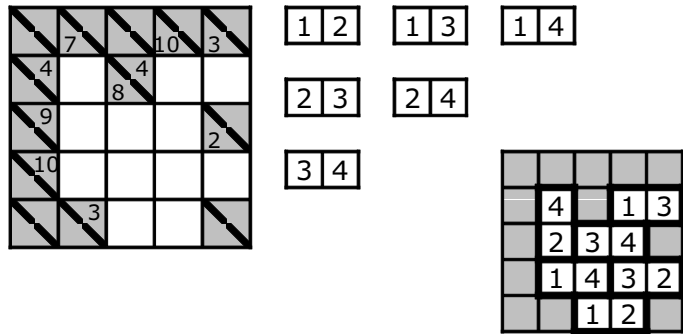
## Japanese Sums

Enter numbers into the grid from 1 to 8 (one per cell), not repeating any of them in a row or column. Grid also contains black cells, separating the "number words". Numbers at the top and left side indicate in order the sum of numbers in the words in that row / column.



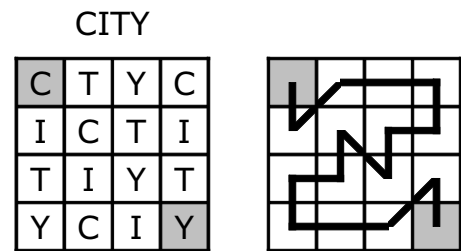
## DominoKakuro

Place the given domino set into the grid covering the empty cells, so that they do not overlap each other. Given numbers indicate the sum of the "number word" starting from that definition cell to the right / down. No digit is ever repeated in a "word".



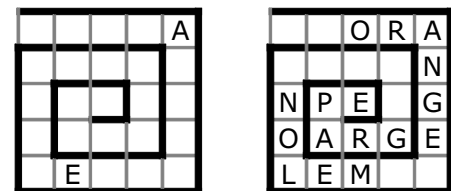
## Password Find

Find a path from the top left corner to the bottom right corner. The path can travel horizontally, vertically or diagonally and it passes through all squares but never crosses itself. Reading the letters in the order they are visited gives repetition of the letters of the given password.



## Word Snail

Write all the words into the grid without holes, following the spiral, but not necessarily in the given order. Words must be separated by at least one empty cell. Letters cannot appear more than once in any row or column.



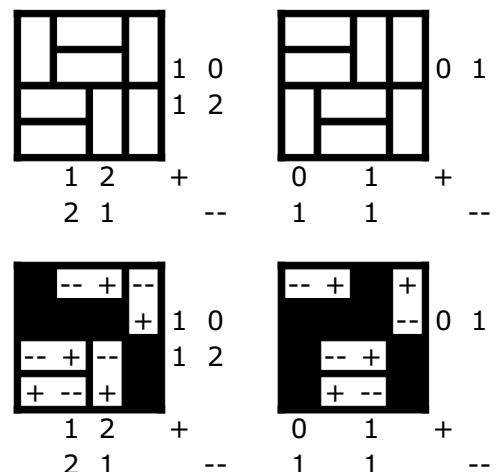
GRAPE, MELON, ORANGE

## TwinMagnets

The diagram contains magnetic and non-magnetic plates of size 2x1. Each magnetic plate has a positive (+) and a negative (-) part (pole). Poles with the same charge cannot border on any side as they repel each other. However, their corners can touch. Non-magnetic plates can be placed next to any other plates, magnetic and non-magnetic ones each. The non-magnetic plates should be blackened.

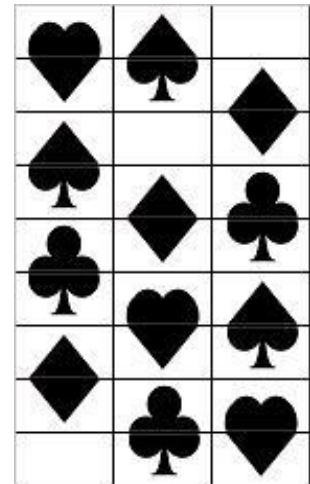
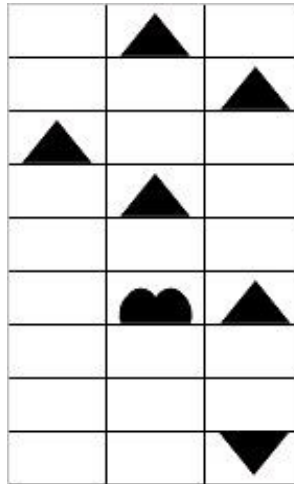
The numbers of + and - charges for some row and column are indicated. Mark the position of all plates.

Diagrams are linked to each other: if a cell contains a '+' sign, same cell on the other diagram cannot contain a '+' sign, i.e. it is '-' or blackened. Same rule for '-' sign.



## Half Suits

Cut all the suits in half in a normal deck of cards and remove the colors also. Here is what you get:

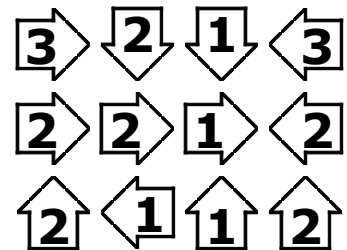
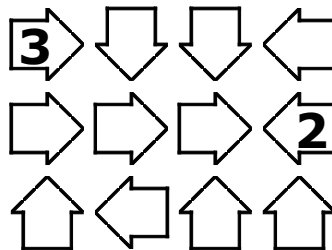


Using these half cards your task is to re-fill the grid according to the rules:

- \* a column must contain all the 4 original suits
- \* a row mustn't contain any half card more than once
- \* a suit mustn't touch the same suit, diagonal touch is allowed.

## Japanese Arrows

Write numbers into the arrows such that each number equals to the number of different numbers its arrow is pointing at.



NAME:

POINTS:



# 8<sup>TH</sup> 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 )
<b>Total</b>	<b>1000 points</b>	

**1. NUMBER TABLES ( 10 + 30 points )**

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

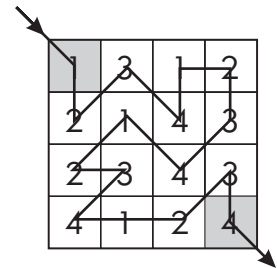

7	8	2	5	4	7	5	6
2	1	4	3	1	6	3	8

2	5	4	7
1	6	3	8

**2. ZIGZAG ( 20 + 50 points )**

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 1-2-3-4-1-2-3-4-1-2-3-4-1-2-3-4-1-2-3-4-... order. The zigzag must pass through all squares.

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



**3. DOMINO ( 40 + 40 points )**

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?

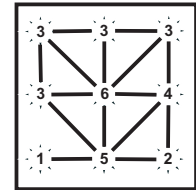
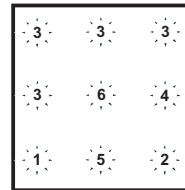
0	1	0	0
0	2	2	1
2	1	1	2

0-0      0-1 1-1  
0-2 1-2 2-2

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

**4. SPOKES ( 20 + 60 points )**

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.

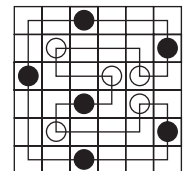


**5. BLACK AND WHITE LOOP ( 40 points )**

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.

		○			
○				○	
		○	○		
○				○	
		○			

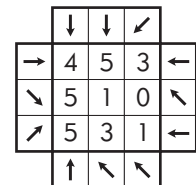
		●			
●				○	
		●		○	
		○		○	
		●			



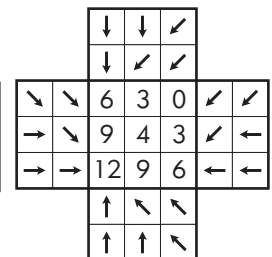
**6. ARROWS ( 20 + 70 points )**

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.

4	5	3
5	1	0
5	3	1

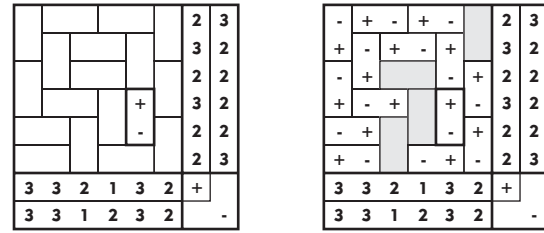


	6	3	0		
	9	4	3		
	12	9	6		



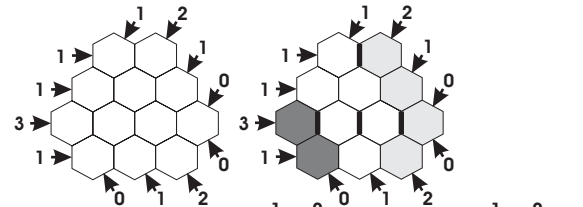
**7. MAGNETS ( 30 + 50 points )**

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.

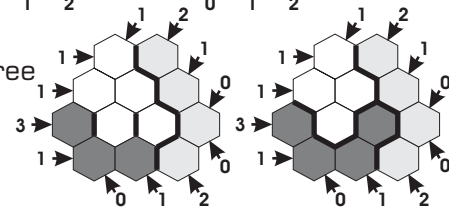


**8. BARRIERS ( 70 + 70 points )**

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



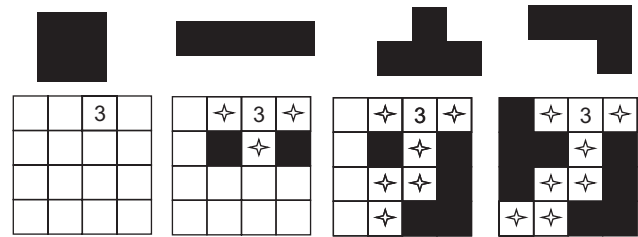
example: With three different tetramino.



**9. ISLANDS ( 60 + 30 points )**

Draw in nine different pentaminoes ( 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 x 2 ( small squares ) doesn't appear anywhere in the water area. Number is belong to water area.

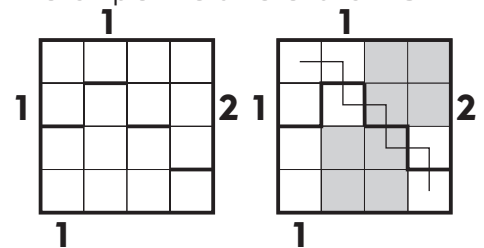
example: Fill with two different islands



**10. TOUR OF THE FIELDS ( 90 points )**

Draw in eleven farms (same size, different shape ) and fields of the size 2x2, 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 wich 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.

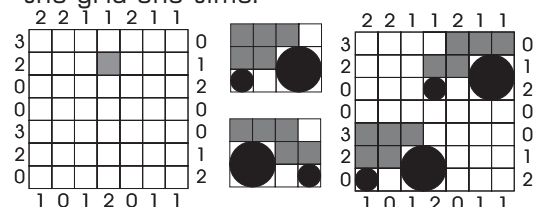
example: Two different farms.



**11. TRACTORS ( 50 + 50 + 100 points )**

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.



# INSTRUCTION BOOKLET

## 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP 2007

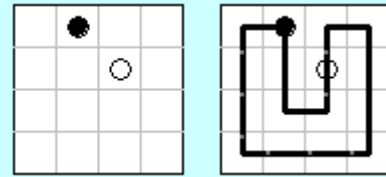
### GYULA SLENKER

Dutch loop	100	points (20+20+20+40)
Magic hexagon	40	points (10+30)
Easy as Magic snail	80	points (40+40)
Gaps	100	points (20+30+50)
Tria six	30	points (10+20)
Multiplication table	80	points (30+50)
City panorama with empty places	100	points (25+25+50)
Loopfinder with given fragments	60	points (15+15+30)
Relation even-odd magic square	170	points (30+40+100)
Paint the shapes	120	points (30+40+50)
Sunspots	120	points (20+30+30+40)
<b>Total</b>	<b>1000</b>	<b>points</b>



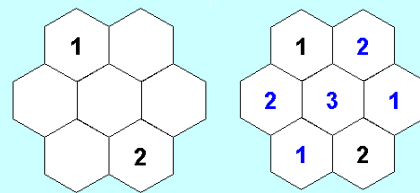
### 1. Dutch loop (100 = 20+20+20+40)

Find a single closed loop that passes through every square exactly once and never crosses itself. The path travels horizontally and vertically, but never diagonally. The loop's line turns at the black circles and passes straight at the white circles.



### 2. Magic hexagon (40 = 10+30)

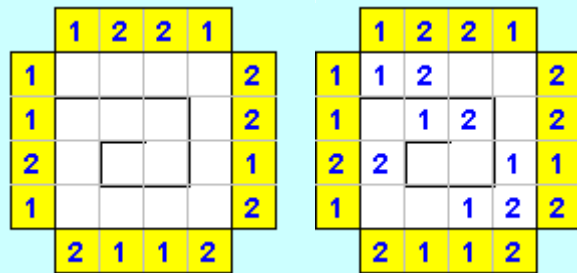
Fill the grid with numbers between 1 and N so that each row and diagonal contains only different numbers. (Note: „N” means the length of the longest row)



### 3. Easy as Magic snail (80 = 40+40)

Fill the grid with the numbers 1, 2 and 3 so that all three numbers appear exactly once in each row and column. If you go in a spiral from the entrance to the center of the snail, the numbers should follow in order 1-2-3-1-...-3.

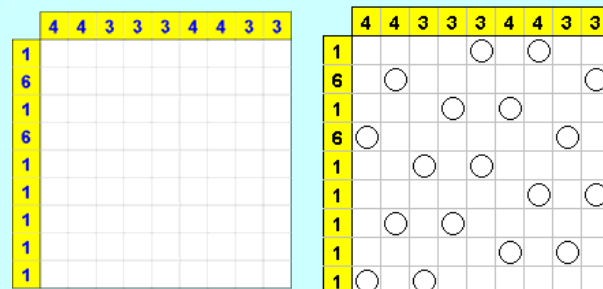
The numbers outside the diagram indicate the numbers you come across first from that direction (In the sample only 1 and 2)



### 4. Gaps (100 = 20+30+50)

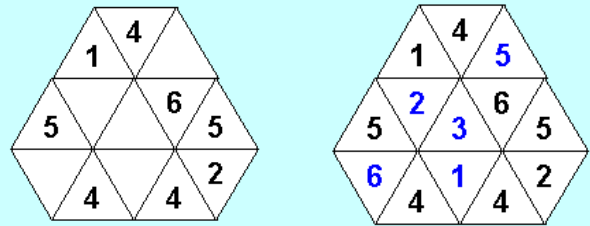
Place two circles in each column and each row. The circles don't touch each other, not even diagonally.

The numbers outside the diagram indicate how many empty fields are between two circles.



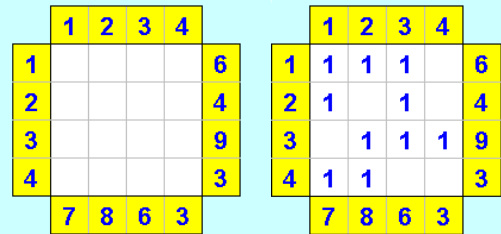
## 5. Tria six (30 = 10+20)

Write numbers 1-6 into the triangles so that every full hexagon of side 1 (consisting of six small triangles) contains different numbers.



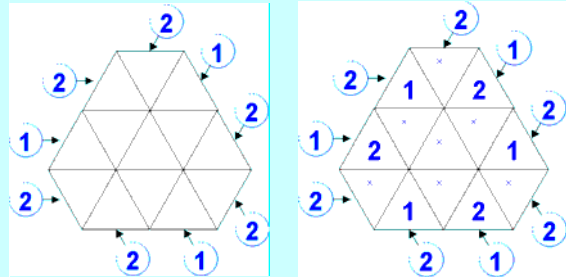
## 6. Multiplication table (80 = 30+50)

Mark some of the cells such that the following two properties hold: (1) the column headers of the marked cells in each row sum up to the number that is at the right of the row (2) the row headers of the marked cells in each column sum up to the number that is at the bottom of the column.



## 7. City panorama with empty places (100 = 25+25+50)

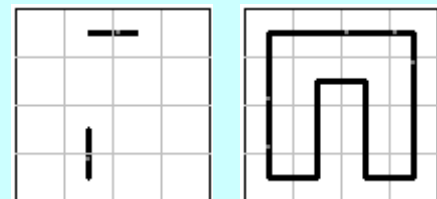
Reconstruct the height of the houses in this city. Each cell has either a building of height between 1 and 4 or is empty. All buildings in a horizontal or 60/120 degrees diagonal straight line are of different height. Numbers aside the figure indicate the number of buildings seen in that direction (with taller building hiding smaller ones).



## 8. Loopfinder with given fragments (60 = 15+15+30)

Find a single closed loop that passes through every square exactly once and never crosses itself. The path travels horizontally and vertically, but never diagonally.

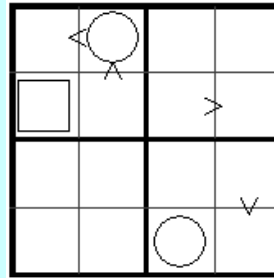
The loop must contain the given fragments.



## 9. Relation even-odd magic square (170 = 30+40+100)

Fill the grid with numbers so that each row, column and area contains only different numbers. Relation signs between adjacent squares must be satisfied.

The fields signed circles contain only odd and the fields signed squares contain only even numbers.



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

## 10. Paint the shapes (120 = 50+40+30)

Place the pieces inside the diagram in such a way that they don't touch each other anywhere, not even diagonally. Individual pieces **may be turned but not mirrored**. The numbers outside the diagram indicate in order, how many parts of the pieces each row or column contains.

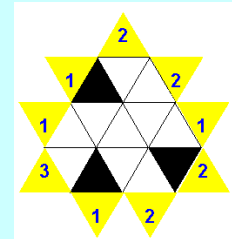
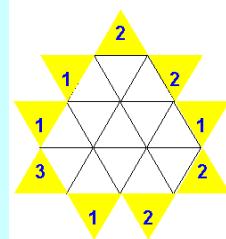
					3	1	
	1	1	3	1	2	2	1
1							
3							
1							
1							
1	1						
3	3						
1							



					3	1	
	1	1	3	1	2	2	1
1							
3							
1							
1							
1	1						
3	3						
1							

## 11. Sunspots (120 = 20+30+30+40)

Paint a few triangles black, these will represent sunspots. Numbers around the grid reveal how many sunspots are visible combined in the two directions from the given number. No two sunspots can touch each other, not even at their corner points. A sunspot is counted only once even if it is visible in two directions from a number. Sunspots do not block numbers from seeing other sunspots beyond them.



NAME:

POINTS:



# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER, 2007

HOTEL BENTA

BUDAPEST

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PUZZLES BY

**CIHAN ALTAY**

- |                                  |                         |
|----------------------------------|-------------------------|
| 1. Mini Pearls                   | 60 points (15+15+15+15) |
| 2. Lateral Thinking              | 55 points               |
| 3. Wrenches                      | 45 points (20+25)       |
| 4. Odd Event                     | 100 points              |
| 5. Rectangle Corners             | 80 points (30+50)       |
| 6. Cardboard                     | 80 points               |
| 7. Raindrops                     | 40 points               |
| 8. Fences <i>Rotator</i>         | 25 points (10+15)       |
| 9. Digital Sudoku <i>Rotator</i> | 90 points (40+50)       |
| 10. Rectangles <i>Rotator</i>    | 20 points (10+10)       |
| 11. Numberless Kakuro            | 55 points               |
| 12. Ordering                     | 65 points (30+35)       |
| 13. Battleships Pool             | 70 points               |
| 14. Fuzuli                       | 155 points (60+95)      |
| 15. Islanders                    | 60 points               |

Total 1000 points

# 8<sup>th</sup> 24 HOURS PUZZLE CHAMPIONSHIP

## PUZZLES BY CIHAN ALTAY

### INSTRUCTIONS

#### 1. Mini Pearls

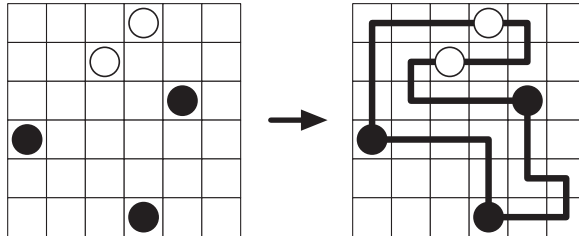
Moving between edge-to-edge neighbouring cells, draw a closed path that passes through every circle and doesn't cross itself. The path must turn at every black circle, but can not turn immediately before or after. And the path can not turn at any white circle but must turn immediately before and/or after.

**15**  
POINTS

**15**  
POINTS

**15**  
POINTS

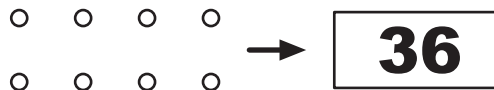
**15**  
POINTS



#### 2. Lateral Thinking

How many quadrilaterals (simple, not self-intersecting) can be drawn, taking four points on the diagram as corners?

**55**  
POINTS

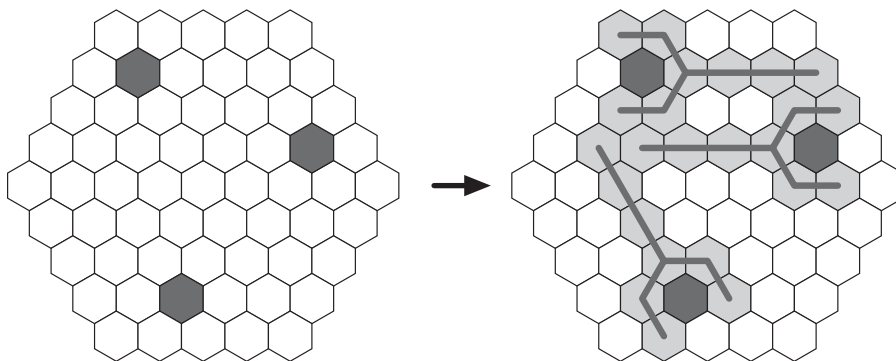


#### 3. Wrenches

Find all wrenches in the grid where each bolt is gripped by a wrench with the proportions as shown in the example. Wrenches do not overlap each other or other bolts.

**20**  
POINTS

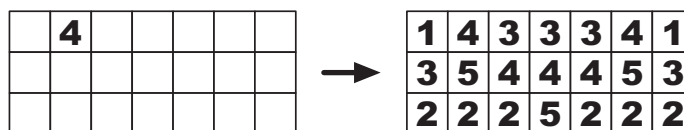
**25**  
POINTS



#### 4. Odd Event

Fill in each cell of the grid with a nonzero digit, so that each odd digit tells the number of even digits in its neighbouring cells; and each even digit tells the number of odd digits in its neighbouring cells. Two cells are neighbours if they share a point.

**100**  
POINTS

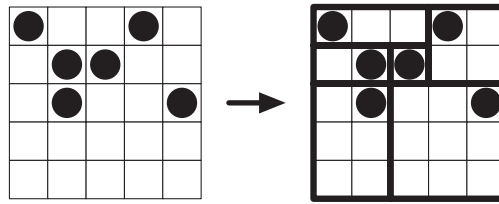


## 5. Rectangle Corners

Divide the whole grid into ten nonoverlapping rectangles, so that each rectangle contains a circle in its corner. A corner is a cell neighbouring two adjacent edges. Each rectangle must be unique in dimensions from any other. That is 1x4 is different from 2x2, but 2x3 is the same as 3x2.

**30**  
POINTS

**50**  
POINTS

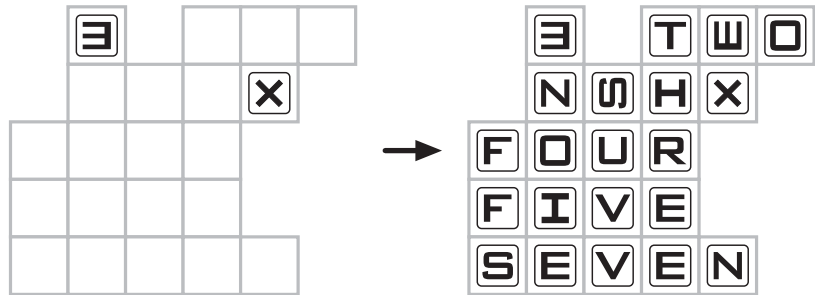


## 6. Cardboard

Locate a letter card into every cell of the grid, so that all words in the given word list can be read either across or down from any one of the four directions. Each letter card in the finished grid must be used at least once.

**80**  
POINTS

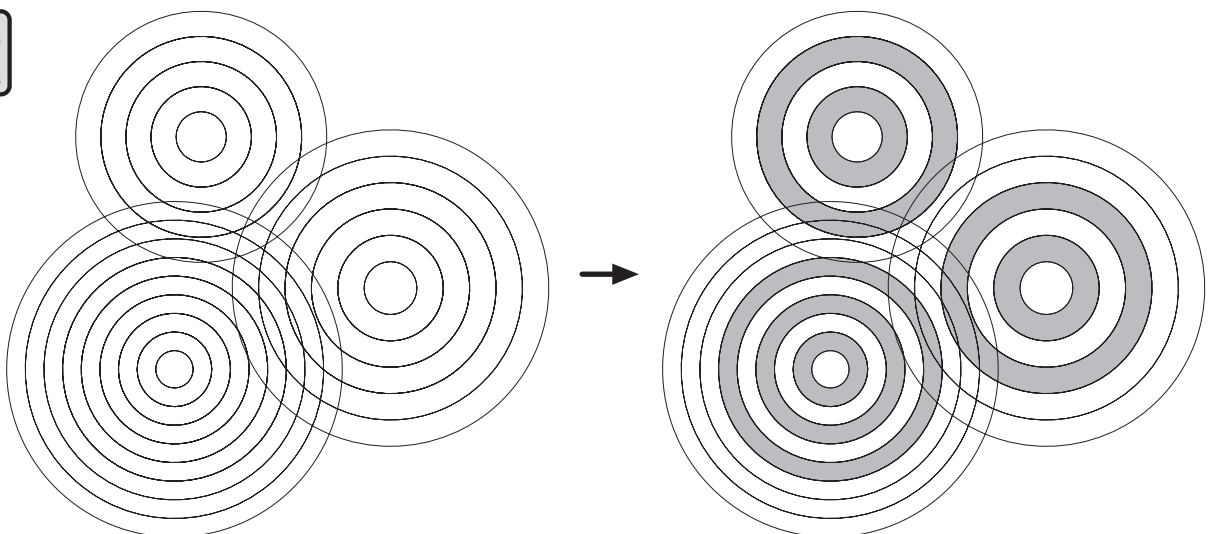
ONE  
TWO  
THREE  
FOUR  
FIVE  
SIX  
SEVEN



## 7. Raindrops

Paint the maximum possible number of nontouching rings in the diagram.

**40**  
POINTS



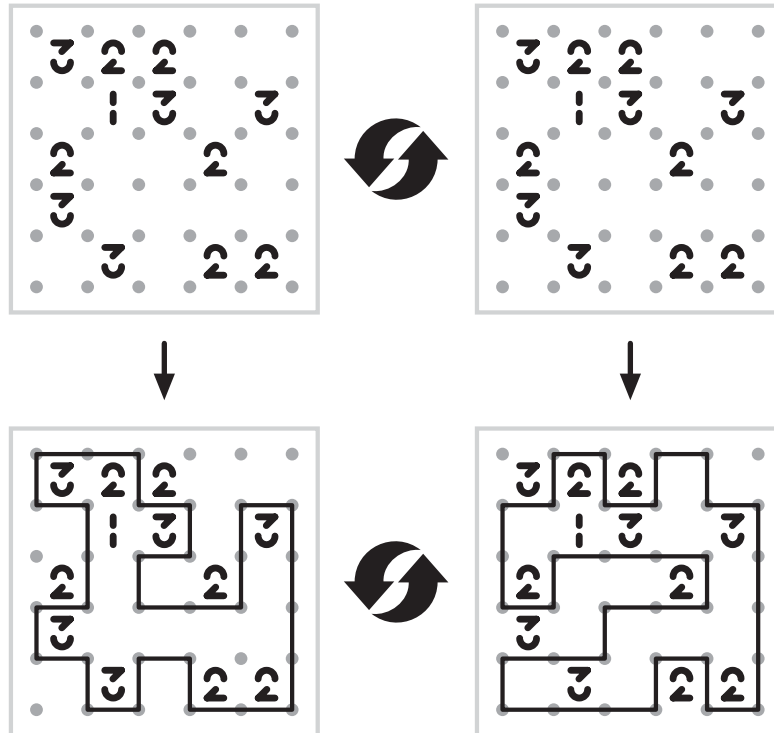
## 8. Fences Rotator

Connecting the dots horizontally and vertically, draw a closed path that doesn't touch or cross itself. Each number gives its number of edges used by the path.

Given two grids are the same. Solve the first one; then turn the page upside down and solve the other.

**10**  
POINTS

**15**  
POINTS



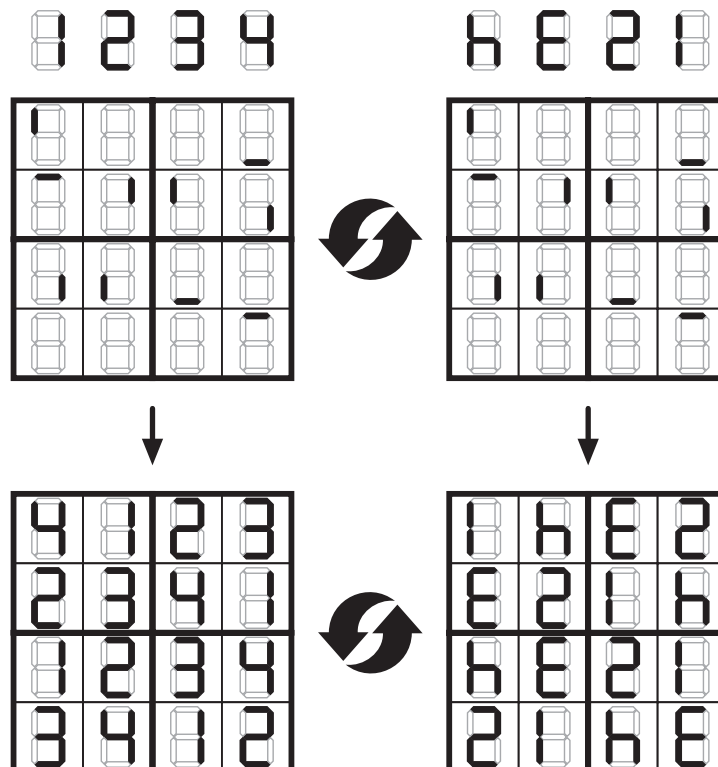
## 9. Digital Sudoku Rotator

Fill in the grid with digits from 1 to 6 so that in every row, in every column and in every 2x3 block each digit appears exactly once. Digits are in digital form as shown, and some segments have already been filled in.

Given two grids are the same. Solve the first one; then turn the page upside down and solve the other.

**40**  
POINTS

**50**  
POINTS



### 10. Rectangles Rotator

Divide the whole grid into some nonoverlapping rectangles, so that each rectangle contains exactly one number which also indicates the area of that rectangle in square units.

Given two grids are the same. Solve the first one; then turn the page upside down and solve the other.

**10**  
POINTS

**10**  
POINTS

### 11. Numberless Kakuro

Replace each letter with a unique digit and then solve the formed Kakuro puzzle: Enter a single digit from 1 to 9 into each empty cell, so that the sum of the digits in each across and down answer equals the value given to the left or above, respectively. No digit is repeated within an answer.

**55**  
POINTS

	FA	FH		BE	FC	B	FG
B			HG				
FE			HD				
			FF				
JE					B	HD	FG
JJ							
	FD	C	FJ				
FG					C		
HI					FF		

	19	12		40	17	4	15
4	<b>3</b>	<b>1</b>	25	<b>7</b>	<b>8</b>	<b>1</b>	<b>9</b>
10	<b>7</b>	<b>3</b>	26 11	<b>8</b>	<b>9</b>	<b>3</b>	<b>6</b>
30	<b>8</b>	<b>6</b>	<b>7</b>	<b>9</b>	4	26	15
33	<b>1</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>9</b>	<b>8</b>
	16	7	13	<b>3</b>	<b>1</b>	<b>4</b>	<b>2</b>
15	<b>7</b>	<b>1</b>	<b>5</b>	<b>2</b>	7	<b>6</b>	<b>1</b>
28	<b>9</b>	<b>6</b>	<b>8</b>	<b>5</b>	11	<b>7</b>	<b>4</b>

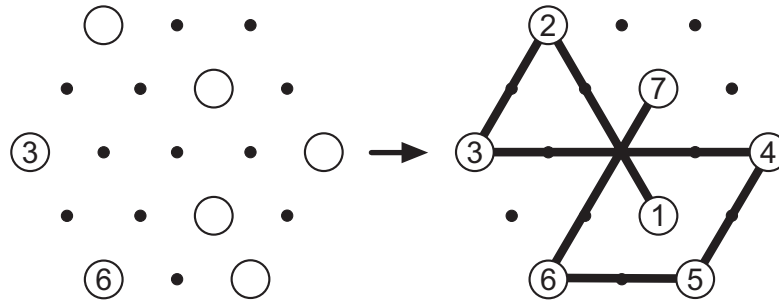


### 12. Ordering

Draw a path starting with a circle, visiting each circle once and finishing on another circle by connecting each two consecutive circle pair with a straight line which makes a multiple of 60 degrees with the horizontal. Connection lines can not pass through other circles. Start with "1" and give a consecutive number into each next circle on the path. Some numbers are already given.

**30**  
POINTS

**35**  
POINTS



### 13. Battleships Pool

Locate the position of the 10-ship fleet in the grid. Ships are oriented either horizontally or vertically; and they don't touch each other, not even diagonally.

**70**  
POINTS

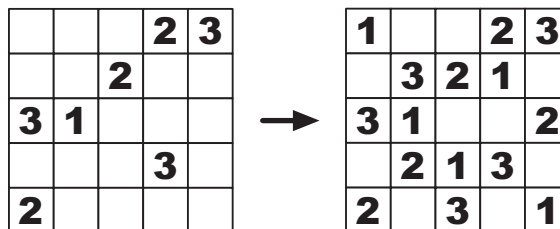


### 14. Fuzuli

Fill in some cells of the grid with digits from 1 to 5 (1 to 3 in the example) so that in every row and in every column each digit appears exactly once. There can not be any 2x2 square of filled-in cells anywhere on the grid.

**60**  
POINTS

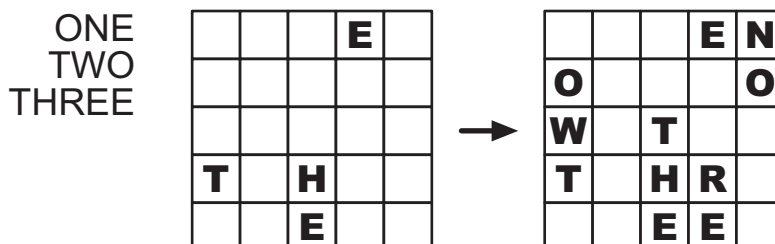
**95**  
POINTS



### 15. Islanders

Fill in some cells of the grid to read each word in the given word list moving between edge-to-edge neighbouring cells from letter to consecutive letter. Letters from different words can not touch each other, not even at a point.

**60**  
POINTS



NAME:

POINTS:



# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER 2007

HOTEL BENTA

BUDAPEST

PUZZLES BY:

**LÁSZLÓ G. NAGY**

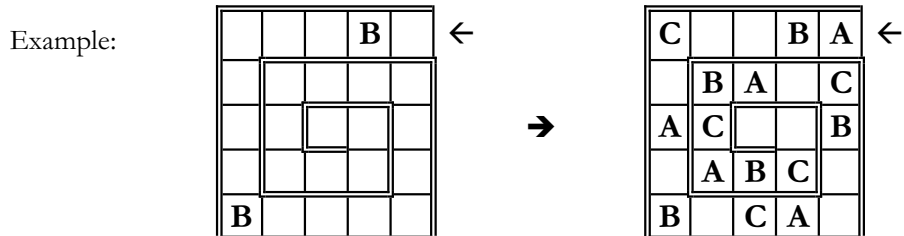
- |                                     |                       |
|-------------------------------------|-----------------------|
| 1. MAGIC SNAIL                      | 85 points (15+40+30)  |
| 2. EASY AS PLAYING<br>PATIENCE      | 75 points             |
| 3. PENTOMINO RELATIONS              | 70 points             |
| 4. SCRABBLE                         | 80 points             |
| 5. WRITERS                          | 115 points (35+35+45) |
| 6. SKYSCRAPERS AND EMPTY<br>SQUARES | 165 points (30+55+80) |
| 7. PASS SQUARES                     | 45 points (15+30)     |
| 8. SNAKES                           | 160 points (4x40)     |
| 9. ARROW MAZE                       | 35 points (10+25)     |
| 10. JAPANESE PENTOMINO              | 70 points             |
| 11. DUTCH LOOP                      | 50 points (5+20+25)   |
| 12. THERMOMETERS                    | 50 points (15+35)     |

---

**Total 1000 points**

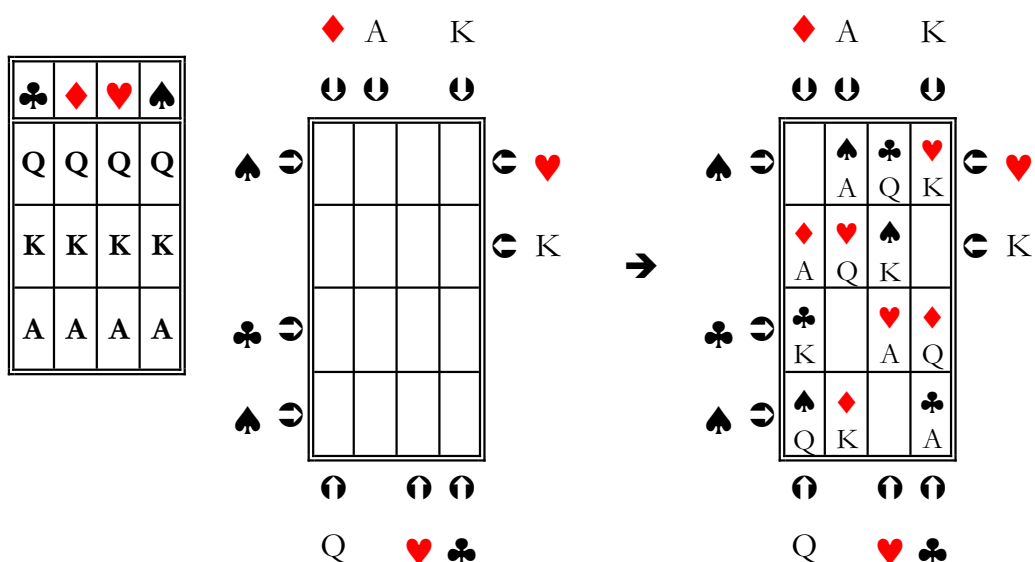
## 1. MAGIC SNAIL (15+40+30=85 points)

Write A, B and C letters into the grid so that in each row and column every letters appear exactly once. (In the third puzzle write A, B, C and D letters!) Along the snail, from outside towards the middle the order of the letters must be A-B-C-A-B-C...A-B-C.



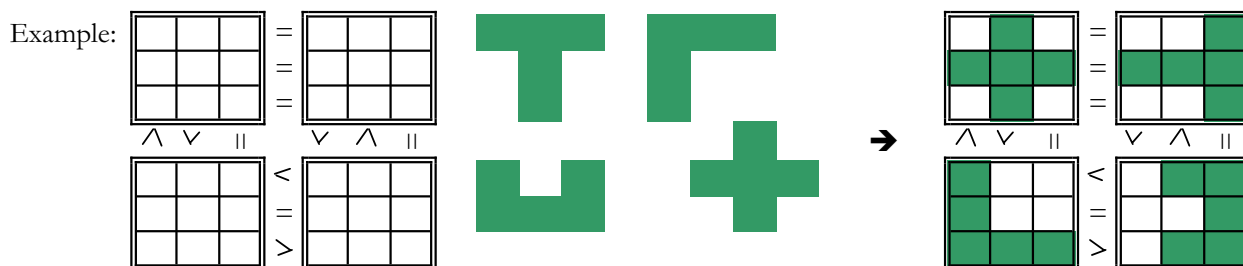
## 2. EASY AS PLAYING PATIENCE (75 points)

Put the given cards in the grid, so that no value and no suit is repeated in any row or column. The values and the suits outside the grid indicate which cards can be the first in the respective direction.



## 3. PENTOMINO RELATIONS (70 points)

Place the pieces into the squares so that each relation be fulfilled. The pentominoes may be rotated but not reflected.



#### 4. SCRABBLE (80 points)

The list below contains 31 city names. Fill them in on the diagram. The diagram already contains each A letters. Every name crosses with one or more other names.

#### 5. WRITERS (35+35+45=115 points)

Fit the names into the grid so that each word can be spelled out as on a boggle board. That is, each word must be spelled out in order by proceeding from letter to consecutive letter horizontally, vertically and/or diagonally.

Example:

J		B

BOB      ROBERT  
GEORGE ROGER  
JIM      TIM  
JOE      TOM

→

J	M	B
I	O	E
T	R	G

#### 6. SKYSCRAPERS AND EMPTY SQUARES (30+55+80=165 points)

The grid symbolises a group of skyscrapers. Each row and column contains skyscrapers of different heights (1-5 and 1-6 in the B and C puzzle) and one empty square. The numbers outside the grid indicate how many skyscrapers are visible from that direction.

Example:

	2	3	2	1	
3					1
3					1
1					2
2					2
	2	1	2	3	

→

	2	3	2	1	
3		1	2	3	1
3	1	2	3		1
1	3		1	2	2
2	2	3		1	2
	2	1	2	3	

#### 7. PASS SQUARES (15+30=45 points)

Connect the "start" and the "finish" with a line that passes through exactly one cell of each gray 2x2 square. You may move only horizontally or vertically. The path may not cross itself.

Example:

S				
				F

→

S				
				F

#### 8. SNAKES (4x40=160 points)

Four sea serpents, 45 metres long lie hidden under the surface of the water. The animals are bent horizontally and vertically, but don't touch themselves or each other anywhere, not even diagonally. The heads and the tails are visible. The numbers in the grid indicate how many neighboring squares are used by the snakes. Can you establish the exact positions of the snakes?

Example:

1			4		
	7				
			15		
				6	
	15				
	7				
					1

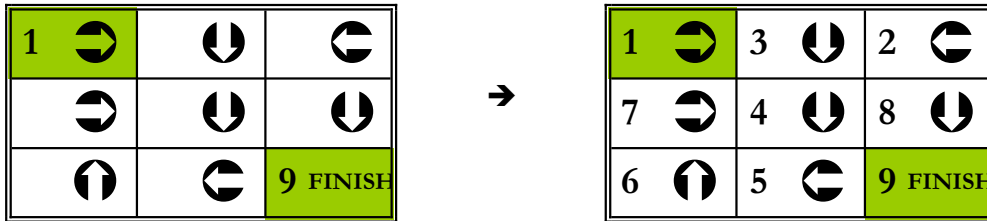
→

1			4		
	7				
	7				

## 9. ARROW MAZE (10+25=35 points)

Starting in the grid with number 1 you will go in the direction an arrow shows and stop by one of the cells of that direction. In each of the cells you must stop exactly once. Try to find an answer and put the numbers from 1 to 16 (in the second puzzle from 1 to 25) in the grid in order you stop by.

Example:



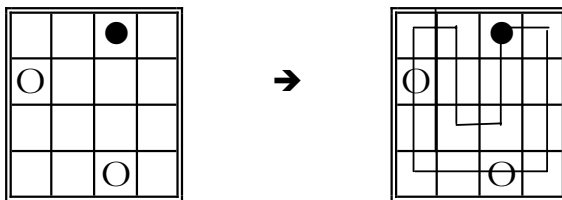
## 10. JAPANESE PENTOMINO (70 points)

Place the pieces inside the diagram in such a way that they don't touch each other anywhere, not even diagonally. Individual pieces may be rotated but not reflected. The numbers outside the diagram indicate in order, how many parts of the pieces each row or column contains.

## 11. DUTCH LOOP (5+20+25=50 points)

Draw an single continuous loop, which passes through all cells and never crosses. The loop passes through white circles without changing direction, while in the black circles it must change direction.

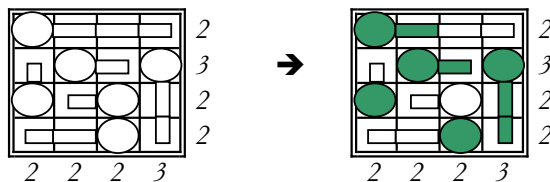
Example:



## 12. THERMOMETERS (15+35=50 points)

There are thermometers in the grid, all of which have their own level of mercury. The mercury always starts from the rounded end and makes it to the other end. There may be empty or full thermometers as well. Numbers around the grid indicate the number of squares in the given row or column that contain mercury.

Example:



NAME:

POINTS:



# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER 2007

HOTEL BENTA

BUDAPEST

PUZZLES BY:

**LÁSZLÓ MÉRŐ**

ABC Connection *	90 points (10+20+25+35)
Jumping Crosswords	100 points
Not Four in a Row	100 points (10+30+60)
The Length Between Two Circles	105 points (20+85)
Maxi Snake	75 points
From 1 to 10	25 points
Scrabble	50 points
LogIQ – 1	15 points (5+5+5)
Gappy Crosswords	60 points
LogIQ – 2	15 points (5+5+5)
Tetris Fences	75 points (30+45)
Word Mastermind – Italian *	30 points (5+5+10+10)
Minesweeper	65 points (20+45)
Word Mastermind – Finnish *	40 points (5+5+15+15)
Crack it On *	60 points (20+20+20)
Hexa Islands	95 points (15+35+20+25)
<b>Total</b>	<b>1000 points</b>

\* Acknowledgements are due to Károly Kresz, whose programs were used for these puzzles

# 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER 2007, BUDAPEST

PUZZLES BY LÁSZLÓ MÉRŐ

## INSTRUCTIONS

### ABC CONNECTION (10+20+25+35 POINTS)

Connect the identical letters with lines that consist of only horizontal and vertical fragments that connect the centres of adjacent unit squares.

### JUMPING CROSSWORDS (100 POINTS)

Place the listed words into the grid. The words may jump over some squares, even the first or the last ones, but **never more than just one** for one jump. The jumped squares, are also jumped by the word coming across. The jumpings are not indicated in the listed words.

### NOT FOUR IN A ROW (10+30+60 POINTS)

A game of four in a row is played between two players. Four in a row means four connected X's or O's horizontally, vertically or diagonally. When a player has "four in a row", the play ends. Find the only possible draw result, ie. the only full filling in of the table containing neither four connected X's nor four O's connected in any row, column and diagonal.

EXAMPLE:

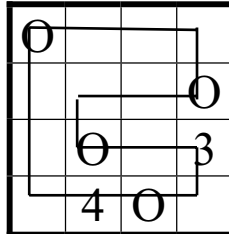
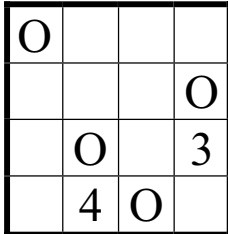
	O	X		X
O				X
	O			O
	X	X		
	X			X

	O	X	X	X
O	X	O	O	X
	O	X	O	O
	X	X	O	X
	X	O	X	X

## THE LENGTH BETWEEN TWO CIRCLES (20+85 POINTS)

Draw a single closed loop that passes through each square exactly once and never crosses or overlaps itself. The path travels horizontally and vertically, but never diagonally. When a number is passed, it must indicate the length of the segment of the loop passing through it, between the two circles before and after it, respectively.

EXAMPLE:



## MAXI SNAKE (75 POINTS)

A 97 square long snake is hiding in the grid. Its head and tail are given. The body of the snake cannot touch itself, not even diagonally. The black fields remain empty.

## FROM 1 TO 10 (25 POINTS)

Connect the numbers from 1 to 10 in ascending order with a polyline that cannot overlap nor cross itself, and it cannot pass diagonally.

## SCRABBLE (50 POINTS)

Place all the listed words in the grid. The letters in the grid should be used at least by one word. Any (even two-letters) words must not be in the grid, which is not on the list. All the letters V have been given.

## LOGIQ-1 (5+5+5 POINTS)

Find out the next letter!

EXAMPLE:

B C D F G H ... – J (the next consonant in the English alphabet)



## GAPPY CROSSWORDS (60 POINTS)

Words may have gaps of arbitrary length inside them, as well as some blank squares before or after them. An empty square counts as a gap or blank in both directions.

EXAMPLE:

J	E	A		N
		L	I	
O			N	O
	D	I	N	O
E				N

**HORIZONTAL:**

DINO  
EN  
JEAN  
LI  
ONO

**VERTICAL:**

ALI  
ED  
JOE  
INN  
NOON

## LOGIQ-2 (5+5+5 POINTS)

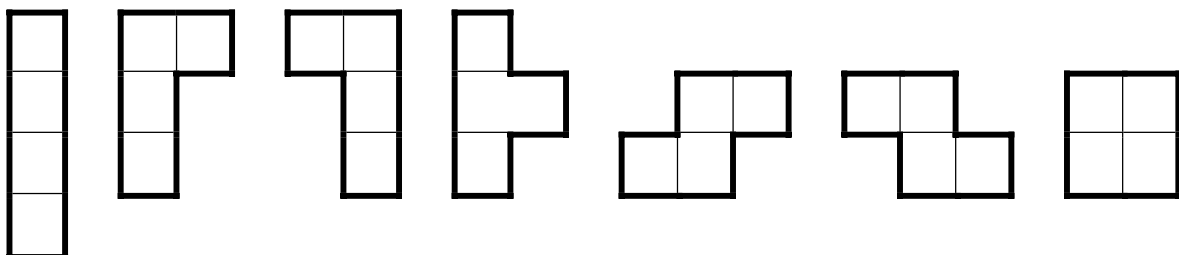
Find out the next letter!

EXAMPLE:

B C D F G H ... – J (the next consonant in the English alphabet)

## TETRIS FENCES (30+45 POINTS)

Place the seven Tetris shapes below in the diagram so that the numbers always indicate the number of line segments adjacent to it. The shapes can be rotated but cannot be mirrored.



## WORD MASTERMIND - ITALIAN (5+5+10+10 POINTS)

The number of black dots shows the number of letters being on the correct position, and the number of white dots shows how many more letters are in the guess, that are of the correct color but not at the correct position.

## MINESWEEPER (20+45 POINTS)

There are 25 (in the second puzzle: 30) mines hidden in the diagram. The digits in the diagram indicate the number of mines that can be found on the squares immediately adjacent to that square - horizontally, vertically or diagonally. Each square may contain at most one mine. Squares holding digits may not hold any mines.

## WORD MASTERMIND - FINNISH (5+5+15+15 POINTS)

The number of black dots shows the number of letters being on the correct position, and the number of white dots shows how many more letters are in the guess, that are of the correct color but not at the correct position.

## CRACK IT ON (20+20+20 POINTS)

Put all the given Latin words into the grid in a way that each area should contain exactly one letter and the words are to be read in every row and column using each area in that row or column once.

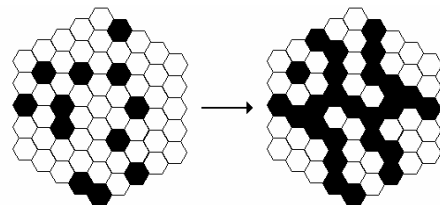
EXAMPLE:

N	O	D		O
A	L		I	
V		E		S
			I	S
A	S			A

ALES	NODO
ALIO	OIEI
ASIA	OLEA
DIES	OSSA
NAVA	VEIS

## HEXA ISLANDS (15+35+20+25 POINTS)

Paint a few more hexagons black so that there be six white areas, each consisting of six adjacent hexagons. The white areas must not touch each other.



NAME:

POINTS:



## 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17–18 NOVEMBER 2007

HOTEL BENTA

BUDAPEST

PUZZLES BY

**BERNHARD SECKINGER**

TESTSOLVERS

HELGE GROSS, IMMANUEL HALUPCZOK, KATRIN KADIOFSKY,  
STEFAN LEOPOLDSIEDER, DANIELA MIESSL, IRENE QUERNER,  
URMAS RAUDE, HARTMUT SEEGER, ROLAND VOIGT

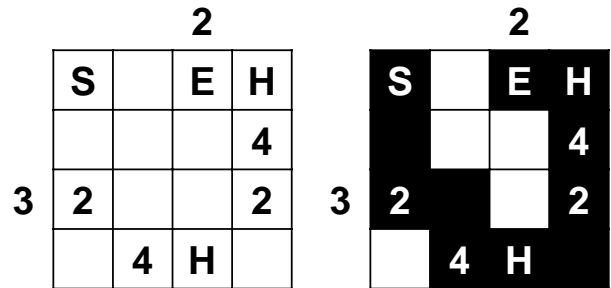
24h-Snake	60 points
Pyramid	20 + 70 points
Anglers	20 + 40 points
Lasers	50 + 75 points
Fences and Posts	55 + 80 points
Magnets	40 + 130 points
As Easy as Skyscrapers	30 + 100 points
Overlapping Puzzles	100 points
Pentomino	130 points
<hr/>	
Total	1000 points

# Instruction Booklet

(for the part of Bernhard Seckinger)

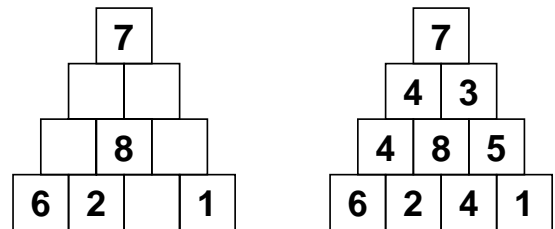
## 24H-SNAKE (60 POINTS)

A 24h-snake is hiding in the grid. The snake starts in the field marked with S, continues through the letters 2, 4 and H, repeating in this order and ends in the field marked with E. The snake never touches itself, not even diagonally. The numbers at the borders give the number of fields in the row/column, that are used by the snake.



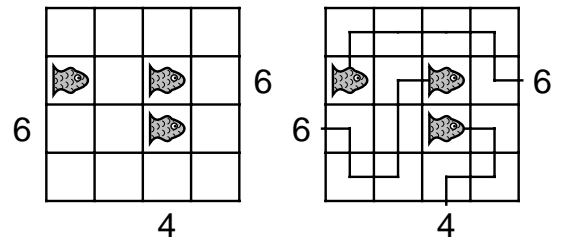
## PYRAMID (20+70 POINTS)

Enter a digit from 1 to 9 into every field. Every field which is above two other fields must contain the sum, the difference *or the product* of the two numbers in the fields below. In every row all numbers are different.



## ANGLERS (20+40 POINTS)

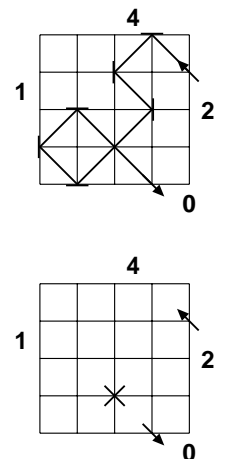
The numbers around the grid are anglers. Every angler has got a fish (every angler a different fish) connected to his rod with a line that goes horizontally and vertically from field to field. The numbers give the number of fields occupied by the line including the field with the fish. Lines may not touch or cross and all fields are used.



## LASERS (50+75 POINTS)

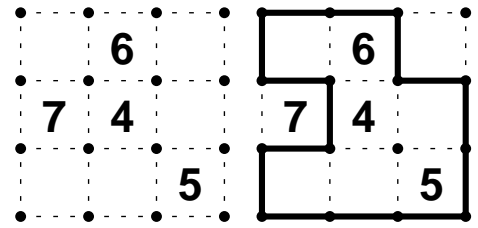
The arrow pointing into the grid tells you where the laser beam enters. Draw horizontal and vertical mirrors on the intersections of the grid, such that the laser leaves the grid as indicated by the other arrow. The numbers on the left and top tell you how often the laser beam passes through a field of that row/column. The numbers on the right and bottom tell you how many mirrors you have to put on the corresponding line.

The laser beam crosses itself only at the marked places. It meets each mirror exactly once.



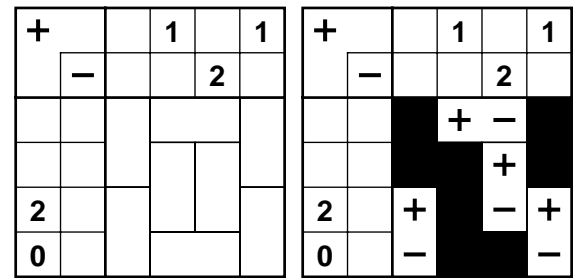
## FENCES AND POSTS (55+80 POINTS)

Draw a single continuous loop by connecting neighboring dots along the dotted lines. The numbers indicate how many edges *and dots* of its field are used for the loop. The loop may not touch or cross itself. It doesn't need to touch all of the dots.



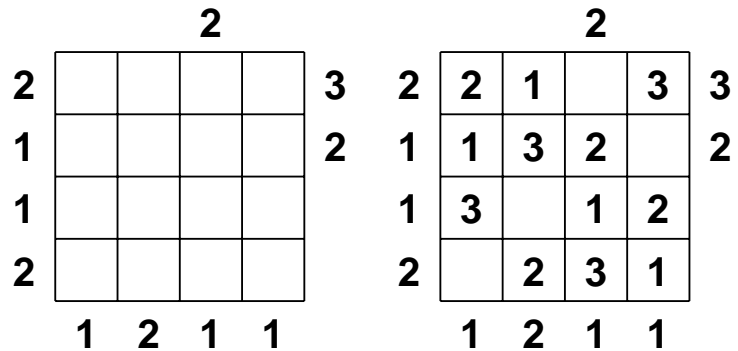
## MAGNETS (40+130 POINTS)

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 can not be horizontally or vertically adjacent. The numbers outside the grid indicate how many magnetic halves of each kind can be found in that row or column.



## AS EASY AS SKYSCRAPERS (30+100 POINTS)

Each row or column contains skyscrapers of different heights (from 1 to 4; in the example only 1 to 3) and an empty square; numbers outside the grid *either* indicate how many skyscrapers are visible from that direction *or* give the height of the first skyscraper seen from that direction (or both).



## OVERLAPPING PUZZLES (100 POINTS)

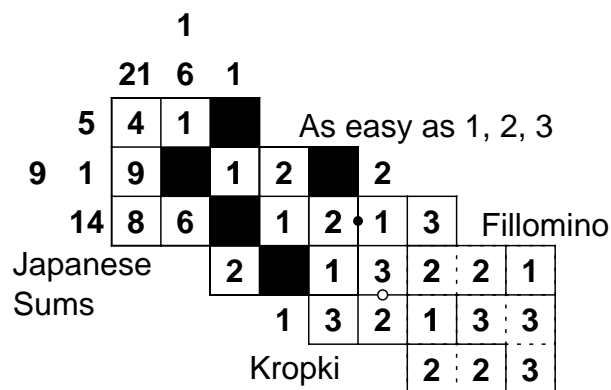
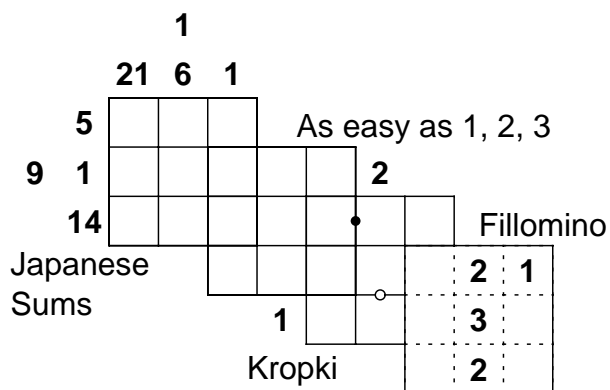
*Four puzzles are overlapping. Solve all four puzzles. Note: In the overlapping fields, only one number (or if both puzzles allow it, a blackend field) may be placed. The four puzzles may have several solutions. Points are only rewarded for solving all puzzles.*

*Japanese Sums:* Blacken some fields and put digits from 1 to 5 into the other fields. No digit may occur twice in a row or column. The numbers at the top and at the left tell you the sum of consecutive digits (separated by black fields) in the correct order.

*As easy as 1,2,3:* Put every digit from 1 to 5 in every row/column exactly once and blacken the remaining fields. The digits at the borders tell you the first digit seen from that direction. *Note: Digits in other puzzles do not count as digits at the borders.*

*Kropki:* Put every digit from 1 to 5 in every row/column exactly once. Between two fields the following is true: Black circle: One number is twice the other. White circle: One number is larger by one than the other one. *Not all circles are shown!*

*Fillomino*: Put digits from 1 to 5 into the fields. All horizontally and vertically connected fields with the same digit form an area. The size of such an area must be the same as the numbers in this area tell you. There might be areas where no digit is given.

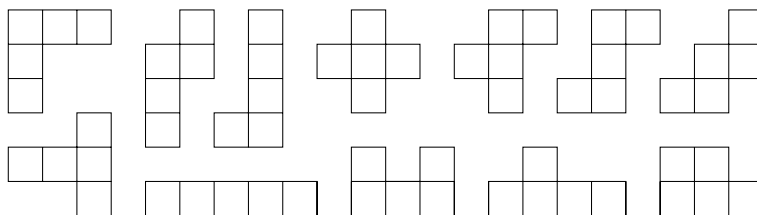
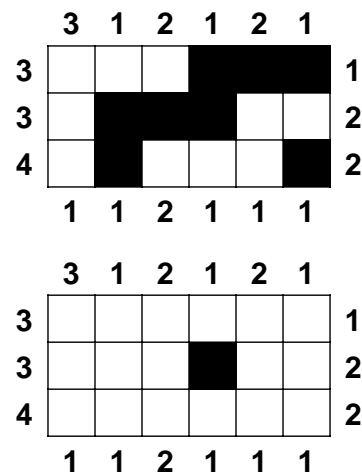


### PENTOMINO (130 POINTS)

Place the 12 given pentominos into the grid and blacken all the other fields. The numbers at the top and at the left side give the number of fields in the corresponding row or column that are used by pentominos. The numbers at the bottom and at the right side give the number of pentominos that can be found in this row or column.

The twelve possible pentomino shapes are given below; each of them must be used exactly once, but they may be rotated and reflected. The pentominos may not touch each other, not even diagonally.

In the example, only two of the twelve pentominos are used.



# INSTRUCTION BOOKLET



## 8<sup>TH</sup> 24 HOURS PUZZLE CHAMPIONSHIP

17-18 NOVEMBER, 2007

HOTEL BENTA

BUDAPEST

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PUZZLES BY

**BOGLÁR MAJOR**

SUDOKU, AMORPHOUS SUDOKU, DIAGONAL MAGIC SQUARE, SUM MAGIC SQUARE, PRODUCT MAGIC SQUARE, CONSECUTIVE SUDOKU, SNAKE, FINNISH SNAKE, DOTTED SNAKE, SNAKE PIT, MINESWEEPER SNAKE, JAPANESE SNAKE, EASY AS ABC, EASY AS ABC – SECOND LETTERS, EASY AS ABC – WITH SECTORS, EASY AS ABC - WITH DIAGONALS, EASY AS ABC – IN HEXAGON, EASY AS ABC – SECOND LETTERS IN HEXAGON, GRAPES, PYRAMID, CZECH PYRAMID, 3D PYRAMID, ORDER IN THE COURT, NUMBER TABLES, SIMPLE TENT CAMP, TENT CAMP, SIMPLE TENT CAMP – WITH SECTORS, HALF DOMINOES, DICE, DOMINO FIGURE, DOMINO, DOMINO IN HEXAGON, PEARLS, LIGHTHOUSES, ANTI-MAGIC SQUARE, ANTI-MAGIC SQUARE – PRODUCTS, ANTI-MAGIC HEXAGON, ANTI-MAGIC HEXAGON – PRODUCTS, MATHEMATICAL SQUARE, MATHEMATICAL MAGIC SQUARE, SIMPLE LOOP-FINDER, OLD LABYRINTH, LOOP IN THE LABYRINTH, EVERY SECOND TURN, HEX LOOP, FROM 0 TO 9, SKYSCRAPERS – WITH DIAGONALS, SKYSCRAPERS – WITH SUMS, SKYSCRAPERS – WITH PRODUCTS, SKYSCRAPERS – WITH EMPTY PLOTS, SKYSCRAPERS – IN HEXAGON, HONEY 7, MINESWEEPER, MINESWEEPER PENTOMINO, DIVISION BY ABCDE, JAPANESE PENTOMINO, CIRCULAR REASONING, RECTANGLES, STAR BATTLE, ROWS AND COLUMNS, CLOUDS, ALL FOURS, AREA OCCUPATION, FOUR WINDS, DOORS, CAVE EXPEDITION, FENCES IN THE CAVE, FENCES AND PENTOMINO, FENCES, FENCES IN HEXAGON, ABC-CONNECTION, ABC-CONNECTION IN HEXAGON, SUMS, BRIDGES, ANGLERS, EQUAL OR NOT EQUAL, BATTLESHIPS, BATTLESHIPS IN HEXAGON, POPULATION COUNT, DARTS, SHADING, ARROWS, SPOKES, NEIGHBOURING NUMBERS, JAPANESE BATTLESHIPS, VALUED CAPSULES, CORAL SEARCH, MAGNETS, ISLANDS, T-SHAPES, INVASION, GARDENS, THERMOMETERS, PUZZLE, MAGIC SNAIL, SUDOKU WITH RELATIONAL SIGNS, SUM TO DO, MAGIC HEXAGON, PAINT BY PENTOMINO, PAINT IT IN TWO COLOURS

10 POINTS EACH



**1. SUDOKU**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and the sections bordered by bold lines exactly once.

1			2
	3	4	

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

**2. AMORPHOUS SUDOKU**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and the amorphous sections bordered by bold lines exactly once.

	1			3
			1	
	5			2
4			3	
	4	5		

2	1	4	5	3
5	3	2	1	4
1	5	3	4	2
4	2	1	3	5
3	4	5	2	1

**3. DIAGONAL MAGIC SQUARE**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and diagonals exactly once.

5				
			4	
				5
			3	
2				

5	4	2	1	3
3	2	5	4	1
4	3	1	2	5
1	5	4	3	2
2	1	3	5	4

**4. SUM MAGIC SQUARE**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and the sections bordered by bold lines exactly once. The sum of the numbers in each sub-region bordered by bold lines must be the number indicated in that area.

5	6		
	6	3	8
5			
	7		

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

**5. PRODUCT MAGIC SQUARE**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and the sections bordered by bold lines exactly once. The product of numbers in each sub-region bordered by bold lines must be the number indicated in that area.

4	6		
	8	2	12
6			
	12		

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

**6. CONSECUTIVE SUDOKU**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and the sections bordered by bold lines exactly once. All neighbouring cells with consecutive numbers have a dot on the border between them.

1			

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

**7. SNAKE**

A 27 square long snake is hiding in the grid. Its head and tail are given. The body of the snake cannot touch itself, not even diagonally. The black fields remain empty.

1			
		10	

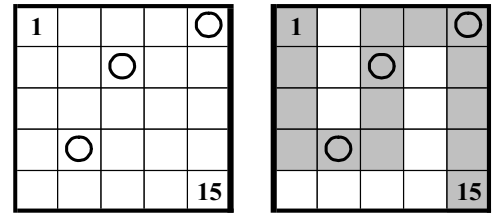
1			
		10	





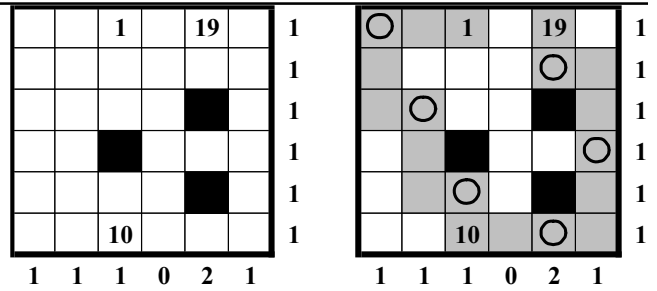
**8. FINNISH SNAKE**

A 27 square long snake is hiding in the grid. The body of the snake cannot touch itself, not even diagonally. Its head, tail and a few other parts are visible. Draw the snake into the figure.



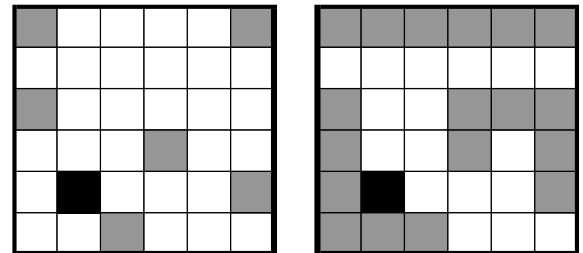
**9. DOTTED SNAKE**

A 27 square long snake is hiding in the grid. The body of the snake cannot touch itself, not even diagonally. Every third square (3, 6, 9 etc.) of the snake has a dot on it. Numbers outside the grid reveal how many dots of the snake are in the corresponding row or column. The head and tail of the snake are given. Draw the snake into the figure.



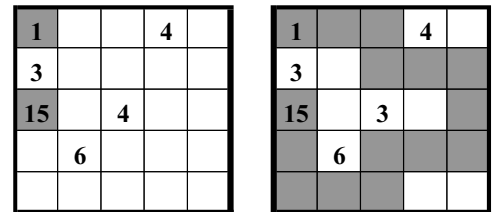
**10. SNAKE PIT**

3 9 square long snakes are hiding in the grid. The body of the snakes cannot touch themselves and each other, not even diagonally. The head and tail of the snakes are given. Draw the snakes into the figure.



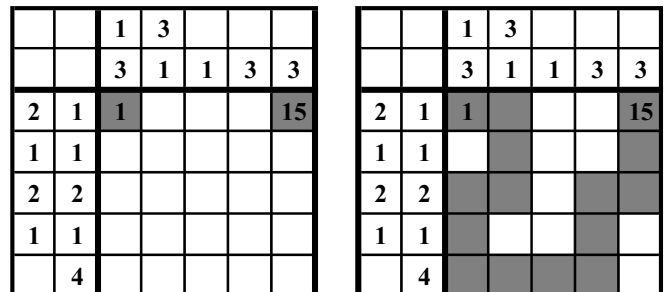
**11. MINESWEEPER SNAKE**

A 27 square long snake is hiding in the grid. The body of the snake cannot touch itself, not even diagonally. The numbers in the squares indicate how many of the corresponding squares are occupied by the snake. The snake cannot occupy numbered squares. The head and tail of the snake are given. Draw the snake into the figure.



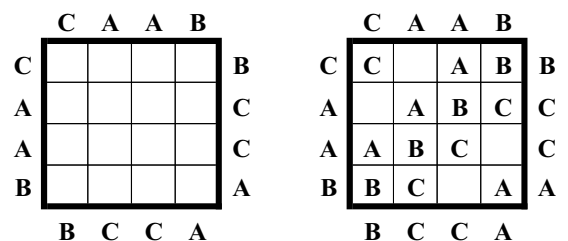
**12. JAPANESE SNAKE**

A 45 square long snake is hiding in the grid. The body of the snake cannot touch itself, not even diagonally. The numbers on the left of each row and the top of each column tell how many parts of the snake there are in that line, and, in order, how long these parts are. The head and tail of the snake are given. Draw the snake into the figure.



**13. EASY AS ABC**

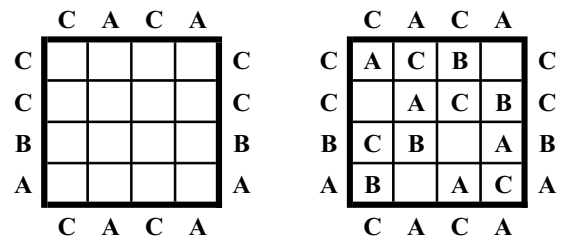
Fill the letters B, E, A, R in the diagrams. Each letter occurs in each of the rows, columns exactly once. The letters outside the diagram indicate the letters you come across first from that direction.





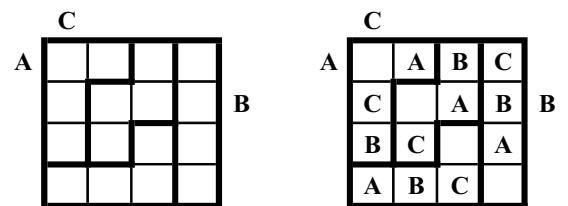
**14. EASY AS ABC – SECOND LETTERS**

Fill the letters B, E, A, R in the diagrams. Each letter occurs once in each of the rows, columns exactly once. The letters outside the diagram indicate the letters you come across second from that direction.



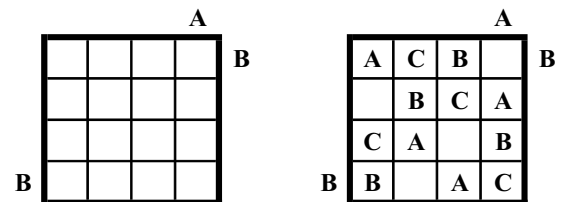
**15. EASY AS ABC – WITH SECTORS**

Fill the letters B, E, A, R in the diagrams. Each letter occurs in each of the rows, columns and the amorphous sections bordered by bold lines exactly once. The letters outside the diagram indicate the letters you come across first from that direction.



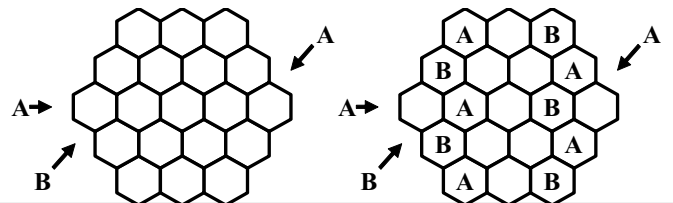
**16. EASY AS ABC - WITH DIAGONALS**

Fill the letters B, E, A, R in the diagrams. Each letter occurs in each of the rows, columns and the two longest diagonals exactly once. The letters outside the diagram indicate the letters you come across first from that direction.



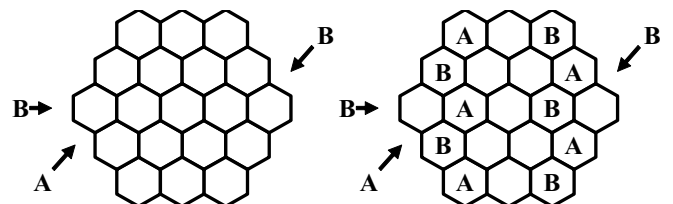
**17. EASY AS ABC – IN HEXAGON**

Fill the letters A, B, C in the diagrams. Each letter occurs in each row and diagonal exactly once. The letters outside the diagram indicate the letters you come across first from that direction.



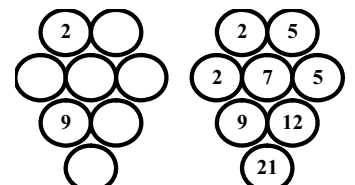
**18. EASY AS ABC – SECOND LETTERS IN HEXAGON**

Fill the letters A, B, C in the diagrams. Each letter occurs exactly once in each row and diagonal. The letters outside the diagram indicate the letters you come across second from that direction.



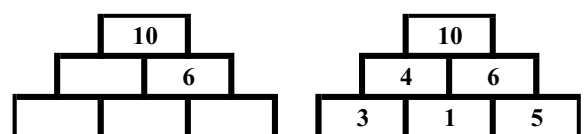
**19. GRAPES**

Fill in the bunch of grapes with natural numbers such that every number is the sum of the two numbers above it, or in the second row equal to the one above it.



**20. PYRAMID**

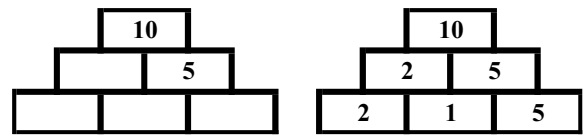
Fill in the cells with numbers, such that every number is the sum of the two numbers under it. The numbers in the first level are all different one-digit natural numbers.





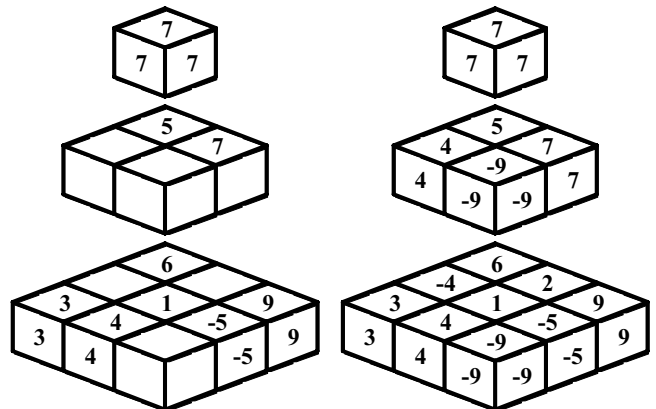
**21. CZECH PYRAMID**

Fill in the cells with numbers, such that every number is the product of the two numbers under it. The numbers in the first level are all different one-digit natural numbers.



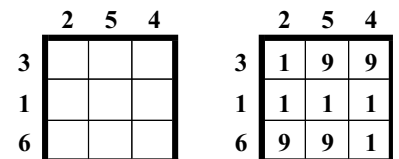
**22. 3D PYRAMID**

Fill in the blocks with numbers, such that every number is the sum of the four numbers on the four blocks under it.



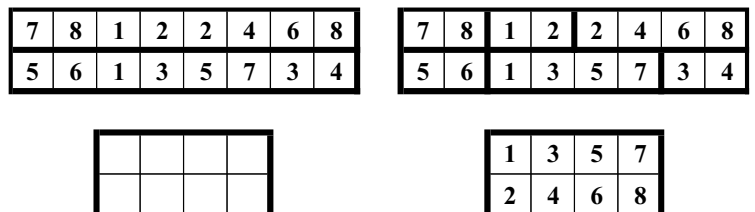
**23. ORDER IN THE COURT**

Place digits 1 or 9 into each square so that the 4-digit numbers reading across and down are in increasing numerical order, as indicated by the numbers outside the grid. All numbers must be different.



**24. 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.



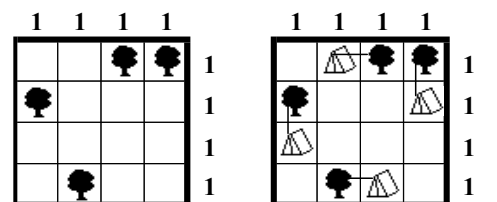
**25. SIMPLE TENT CAMP**

The figure shows a tent camp planted with trees. There is exactly one tent near each tree ("near" means a neighbouring field, at the top, bottom, left or right side of the tree). The tents cannot touch each other, not even diagonally. (Certainly, a tent can touch a tree diagonally, but they cannot belong to each other.) Mark the places of the tents.



**26. TENT CAMP**

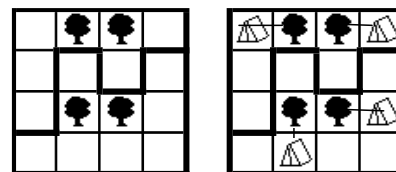
The figure shows a tent camp planted with trees. There is exactly one tent near each tree ("near" means a neighbouring field, at the top, bottom, left or right side of the tree). The tents cannot touch each other, not even diagonally. (Certainly, a tent can touch a tree diagonally, but they cannot belong to each other.) Mark the place of the tents. The numbers outside the diagram indicate the number of tents in the given row or column.





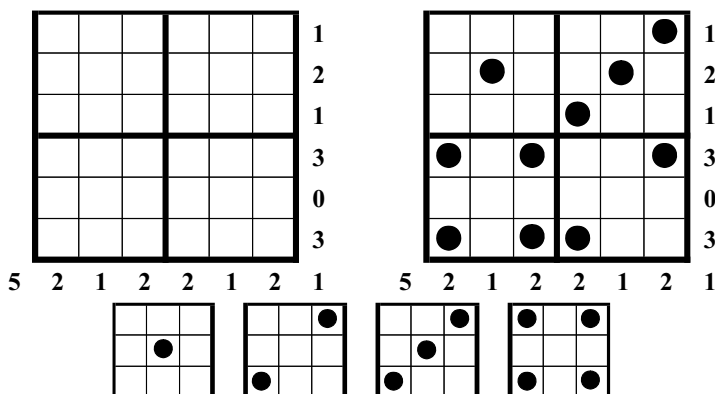
**27. SIMPLE TENT CAMP – WITH SECTORS**

The figure shows a tent camp planted with trees. There is exactly one tent near each tree ("near" means a neighbouring field, at the top, bottom, left or right side of the tree). The tents cannot touch each other, not even diagonally. (Certainly, a tent can touch a tree diagonally, but they cannot belong to each other.) There are 3 tents in all three sectors. Mark the place of the tents.



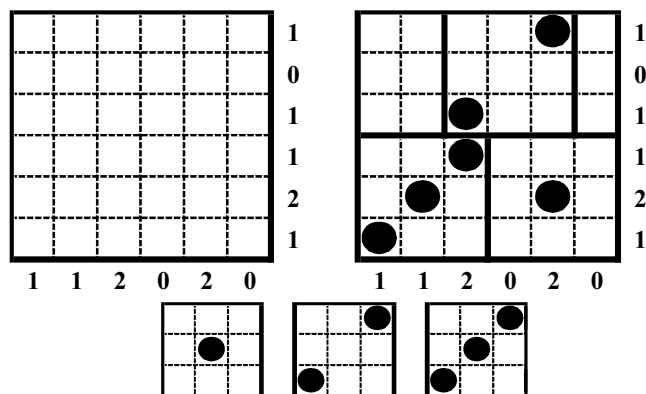
**28. HALF DOMINOES**

Place all the 9 half dominoes into the puzzle grid such that the given numbers along the lines or main (longest) diagonals indicate the sum of the dots in the corresponding rows, columns or diagonals. The pieces may not be rotated nor reflected.



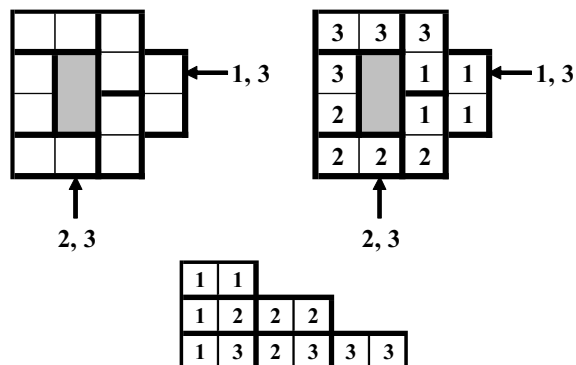
**29. DICE**

Place all the 6 dices into the puzzle grid such that the given numbers along the lines indicate the sum of the dots in the corresponding rows, columns or diagonals. The pieces may touch each other but may not overlap. The pieces may not be rotated nor reflected.



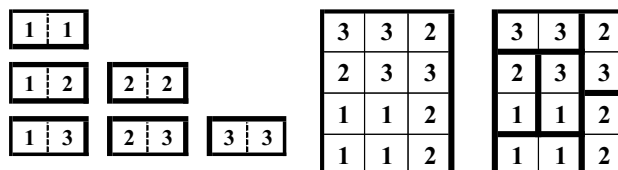
**30. DOMINO FIGURE**

Place all the elements of the given domino set into the figure, according to the domino game's rule, i.e. the touching parts of any neighbouring domino stones must contain the same numbers. The given numbers beside and below the figure show the numbers occurring in the corresponding row or column.



**31. DOMINO**

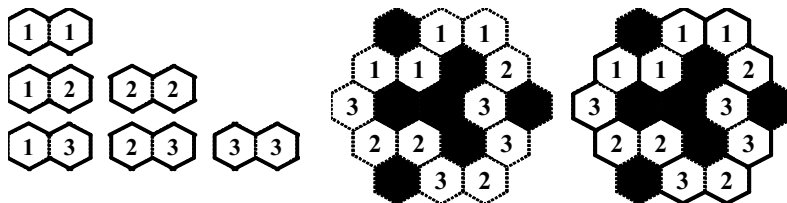
The given set of 21 dominoes has been placed into the diagram. However, the sides of the dominoes have been removed, and the spots have been replaced by numbers. Draw the sides in the diagrams to show how dominoes are positioned.





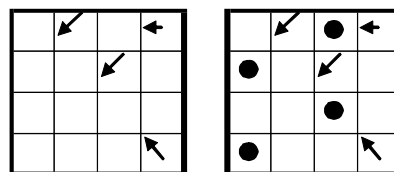
**32. DOMINO IN HEXAGON**

The given set of 15 dominoes has been placed into the diagram. However, the sides of the dominoes have been removed, and the spots have been replaced by numbers. Draw the sides in the diagrams to show how dominoes are positioned.



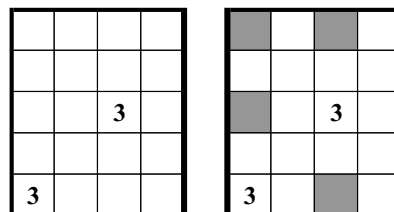
**33. PEARLS**

Draw a few pearls into the figure. The pearls cannot touch each other even diagonally. Each arrow points to one pearl, and each pearl is pointed by one arrow.



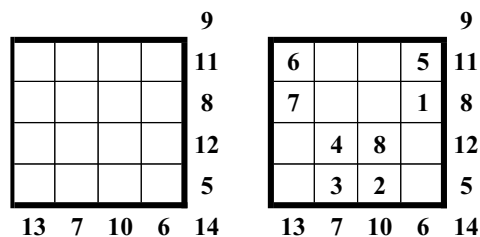
**34. LIGHTHOUSES**

In the sea, represented by the grid, there are lighthouses, each one lighting up a complete horizontal and a complete vertical strip (ie. its own row and column). There are 9 boats, size of one square on the grid. The number on each lighthouse represents the number of boats which the lighthouse has in its beam of light. None of the boats touch a lighthouse nor another boat, not even diagonally. Mark the position of all boats.



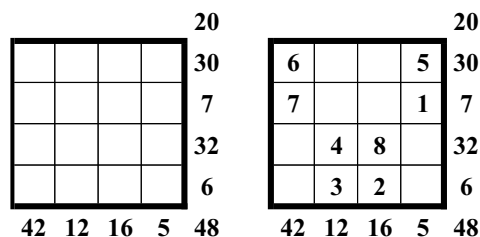
**35. ANTI-MAGIC SQUARE**

Place numbers 1 to 10 (each exactly once) in a 5x5 square such that there are two numbers in each row, column and both main diagonals, and the numbers outside the figure indicate the sum of these two numbers. Fill in the numbers in the diagram.



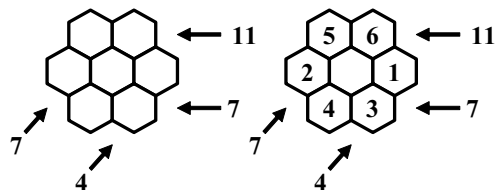
**36. ANTI-MAGIC SQUARE - PRODUCTS**

Place numbers 1 to 10 (each exactly once) in a 5x5 square such that there are two numbers in each row, column and both main diagonals, and the numbers outside the figure indicate the product of these two numbers. Fill in the numbers in the diagram.



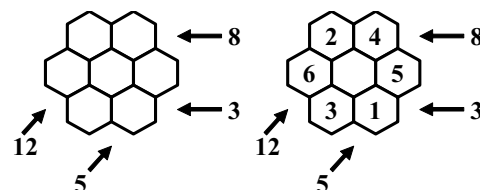
**37. ANTI-MAGIC HEXAGON**

Place numbers 1 to 10 (each exactly once) in the figure such that there are two numbers in each row and diagonal, and the numbers outside the figure indicate the sum of these two numbers. Fill in the numbers in the diagram.



**38. ANTI-MAGIC HEXAGON - PRODUCTS**

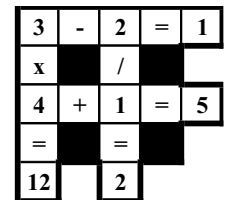
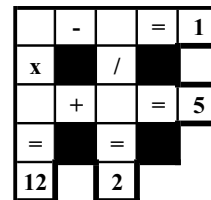
Place numbers 1 to 10 (each exactly once) in the figure such that there are two numbers in each row and diagonal, and the numbers outside the figure indicate the product of these two numbers. Fill in the numbers in the diagram.





**39. MATHEMATICAL SQUARE**

Fill in the grid with numbers from 1 to 9 such that the result of the operations must be the number written into the square at the end of the rows and columns. The operations must be performed from the left to the right or from the top downwards. Each number should be used only once.



**40. MATHEMATICAL MAGIC SQUARE**

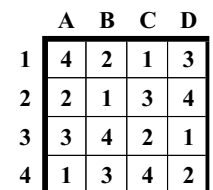
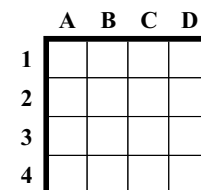
Fill in the grid with numbers from 1 to 5 such that each number occurs in all rows and columns exactly once. The equations beside the grid must be true.

$B3+C3=6$

$A1+A2=6$

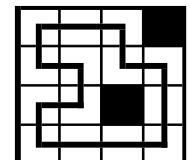
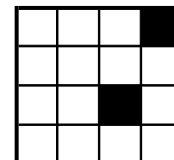
$C1+D1=4$

$D3+D4=3$



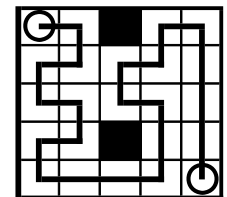
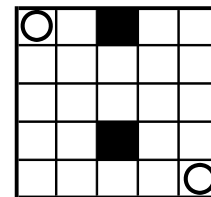
**41. SIMPLE LOOP-FINDER**

Draw a single continuous loop into the figure that only travels horizontally or vertically, but never diagonally. It goes through all white squares exactly once, but avoids the black ones.



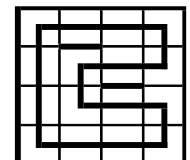
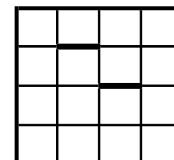
**42. OLD LABYRINTH**

Draw a single continuous line into the figure that starts and ends at the squares indicated by circles. The line travels only horizontally or vertically, but never diagonally and goes through all white squares exactly once, but avoids the black ones.



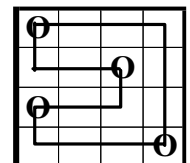
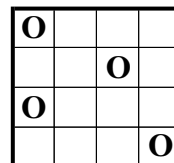
**43. LOOP IN THE LABYRINTH**

Draw a single continuous loop into the figure that only travels horizontally or vertically, but never diagonally. It goes through all white squares exactly once and never crosses the bold lines.



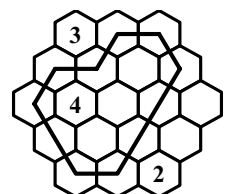
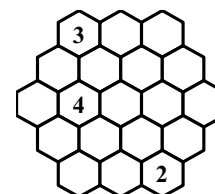
**44. EVERY SECOND TURN**

Draw a single continuous loop into the figure that only travels horizontally or vertically, but never diagonally. It goes through all squares exactly once. Along the loop, every second square where the loop makes a turn is marked with a circle.



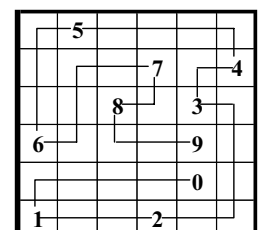
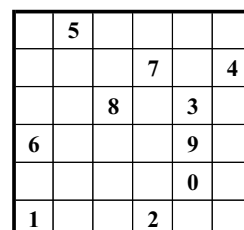
**45. HEX LOOP**

Each hexagonal grid below contains a loop of adjacent hexagons in which no sharp turns are ever made. The numbers in the grid indicate how many of the adjacent hexagons contain part of the path. The path does not go through any numbered hexagons.



**46. FROM 0 TO 9**

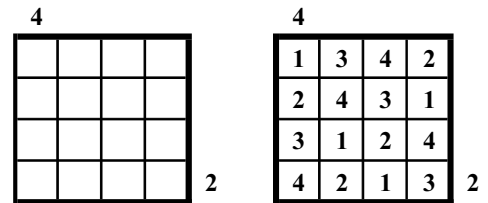
Connect the numbers from 0 to 9 in ascending order with a polyline that touches all the squares of the diagram exactly once. The polyline cannot overlap nor cross itself, and it cannot pass diagonally.





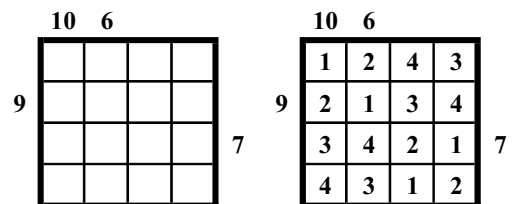
**47. SKYSCRAPERS – WITH DIAGONALS**

The grid represents a housing estate in which each square is a building. The height of the buildings are 1-5. There is one from each size of buildings in each row, column and diagonal. The numbers outside the diagram show the number of buildings that can be seen in the given row or column from that direction. (A taller building always covers up the smaller ones)



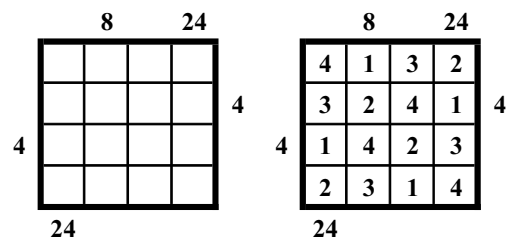
**48. SKYSCRAPERS – WITH SUMS**

The grid represents a housing estate in which each square is a building. The height of the buildings are 1 to 5. There is one from each size of buildings in each row and column. The numbers outside the diagram show the sum of the heights of the buildings that can be seen in the given row or column from that direction. (A taller building always covers up the smaller ones)



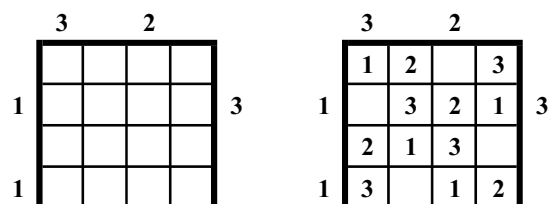
**49. SKYSCRAPERS – WITH PRODUCTS**

The grid represents a housing estate in which each square is a building. The height of the buildings are 1 to 5. There is one from each size of buildings in each row and column. The numbers outside the diagram show the product of the heights of the buildings that can be seen in the given row or column from that direction. (A taller building always covers up the smaller ones)



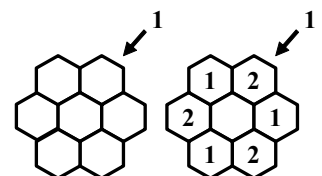
**50. SKYSCRAPERS – WITH EMPTY PLOTS**

The grid represents a housing estate in which each square is a building. The height of the buildings are 1 to 4. There is one from each size of buildings and one empty plot in each row and column. The numbers outside the diagram show the number of buildings that can be seen in the given row or column from that direction. (A taller building always covers up the smaller ones)



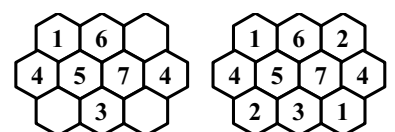
**51. SKYSCRAPERS – IN HEXAGON**

The grid represents a housing estate in which each hexagon is a building. The height of the buildings are 1 to 4. There is one from each size of buildings in each row and all diagonals. The numbers outside the diagram show the number of buildings that can be seen in the given row or diagonal from that direction. (A taller building always covers up the smaller ones)



**52. HONEY 7**

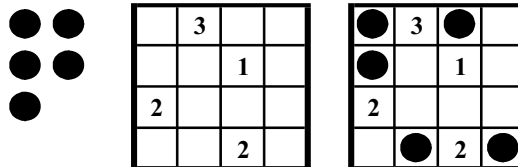
Fill in the hexagonal grid with numbers from 1 to 7. It is true for each white hexagon (but not necessarily the black one), that the number in the given hexagon and its six neighbours are all different.





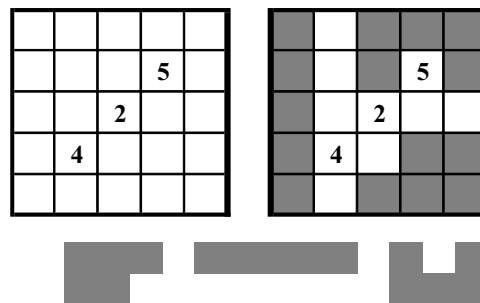
**53. MINESWEEPER**

There are 12 mines hidden in the diagram. The numbers in the diagram indicate how many of the corresponding squares are occupied by mines - horizontally, vertically or diagonally. Each square may contain at most one mine. Squares holding digits may not hold any mines.



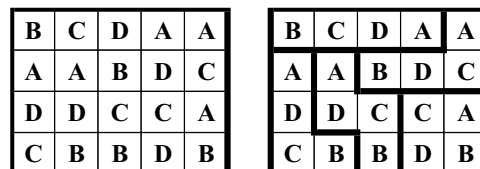
**54. MINESWEEPER PENTOMINO**

The given pentomino set is hidden in the diagram. The numbers in the diagram indicate how many of the corresponding squares are occupied by the pentomino pieces - horizontally, vertically or diagonally. Pentomino pieces may be rotated, but not reflected, and they may not touch each other, not even diagonally. Squares with numbers may not hold any pentomino parts.



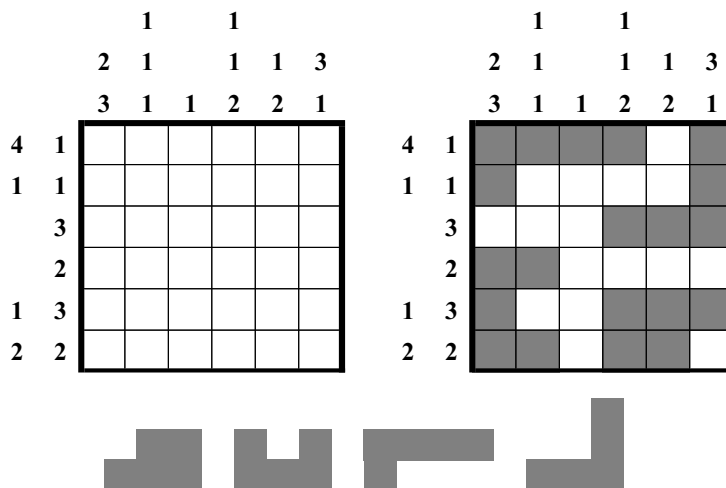
**55. DIVISION BY ABCDE**

Divide the area into pentominoes such that each area contains exactly one A,B,C,D,E letters. No two pentominoes have the same form (Two pentominoes have the same form if one can be transformed into the other with rotation and/or reflection).



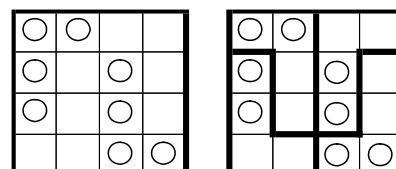
**56. JAPANESE PENTOMINO**

The given pentomino set is hidden in the diagram. Pentomino pieces may be rotated, but not reflected, and they may not touch each other, not even diagonally. The numbers on the left of each row and the top of each column tell how many pentomino parts there are in that line, and, in order, how long these parts are.



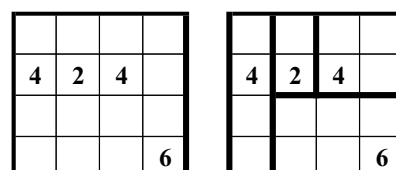
**57. CIRCULAR REASONING**

Divide the grid into L-shaped pieces of the same size so that each piece contains exactly two circles.



**58. RECTANGLES**

Divide the figure into rectangles. Each rectangle must contain exactly one number, and this number must show the area of the enclosing rectangle. The area of a single field is 1.

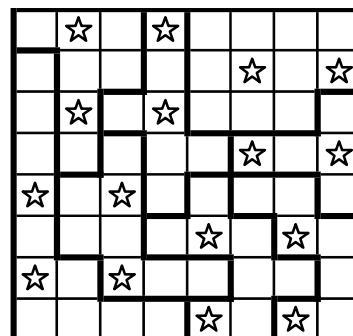
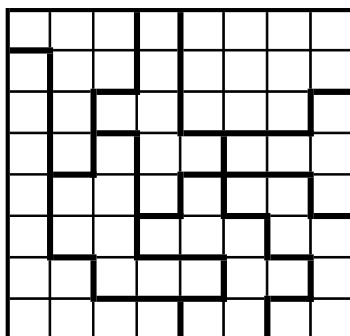






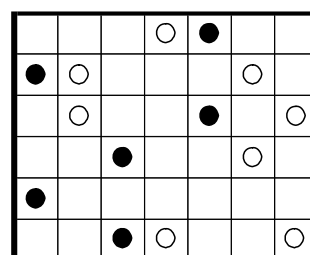
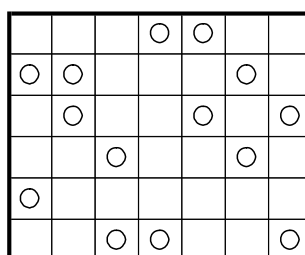
**59. STAR BATTLE**

Place two stars, the size of one square, in each column, each row and each black-edged area of the grid. The stars do not touch, not even diagonally.



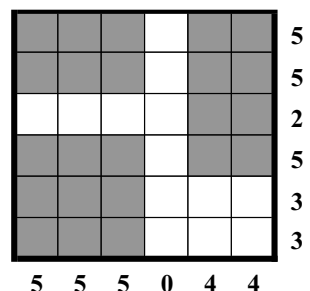
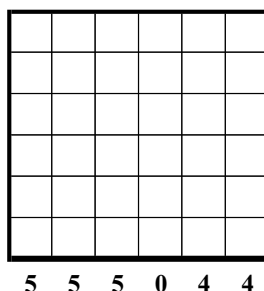
**60. ROWS AND COLUMNS**

Mark a few columns in the grid that will result in exactly one circle in each row when put together.



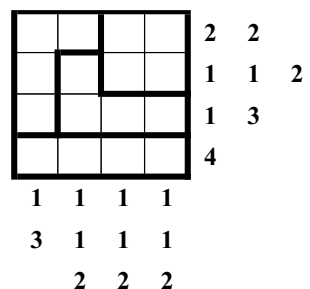
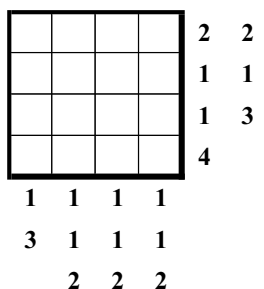
**61. CLOUDS**

The diagram hides some clouds. All clouds are rectangular and at least two squares wide and two squares long. The numbers outside the grid indicate how many squares of the clouds can be found in each row and column.



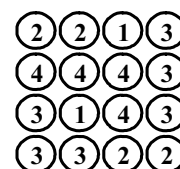
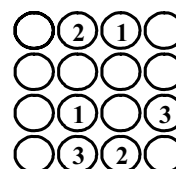
**62. ALL FOURS**

Divide the grid into adjacent block of four squares. Numbers outside the show how many parts of blocks there are in each row or column and how long these parts are, but not necessarily in the correct order.



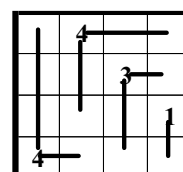
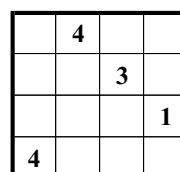
**63. AREA OCCUPATION**

Write numbers into the empty circles such that each number must be a part of a contiguous area consisting of as many circles as the number itself. Two areas of the same size may touch each other only diagonally.



**64. FOUR WINDS**

Draw straight lines starting from the squares containing numbers. These numbers always show the sum of the lengths of the lines starting from that square. The lines must not cross or overlap each other, and may only pass through the middle lines of the squares.





**65. DOORS**

Close some doors such that all numbers indicate the number of rooms that can be seen from the given room in all directions (not including itself)

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

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

**66. CAVE EXPEDITION**

Select a connected set of squares – the cave – so that it contains all the numbers inside and each number reveals the number of cells that are visible from the given number's cell (which is included). The cave may not have an island inside it.

	2		
		4	
			3
3		2	

	2		
		4	
			3
3		2	

**67. FENCES IN THE CAVE**

Combination of fences and cave expedition. Draw a single continuous loop going on the edges of the grid. A numbered square indicates exactly how many of its four edges are used by the path and reveals the number of cells that are visible from the given number's cell (which is not included) as well. The cave may not have an island inside it.

3			2
	2		
		3	

3			2
	2		
		3	

**68. FENCES AND PENTOMINO**

Draw contiguous loops into the diagram so that each one forms a given pentomino figure. Each pentomino piece must be placed exactly once, and they may be rotated but not reflected. The figures may not touch each other, not even diagonally. The numbered squares indicate the number of its edges used by a loop.

2				2
	0		2	
			1	
	2			
3		2		

2				2
	0		2	
			1	
	2			
3		2		



**69. FENCES**

Draw a single continuous loop going on the edges of the grid. A numbered square indicates exactly how many of its four edges are used by the path.

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

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

**70. FENCES IN HEXAGON**

Draw a single continuous loop going on the edges of the grid. A numbered hexagon indicates exactly how many of its six edges are used by the path.

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

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

**71. ABC-CONNECTION**

Connect the identical letters with lines that consist of only horizontal and vertical fragments that connect the centres of adjacent unit squares. A square may be used at most once.

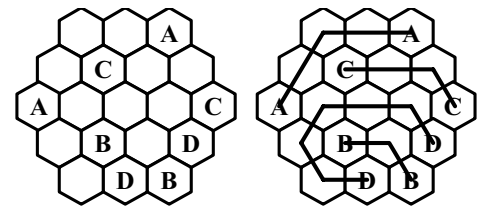
			B
	A	C	
		B	
C			A

			B
	A	C	
		B	
C			A



**72. ABC-CONNECTION IN HEXAGON**

Connect the identical letters with broken lines that connect the centres of adjacent unit hexagons. A hexagon may be used at most once.



**73. SUMS**

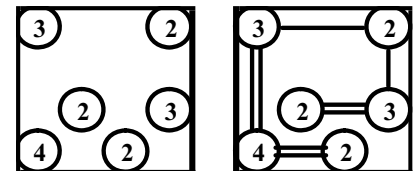
Fill the numbers 1 to 7 into empty squares of the grid below, so in each row appears each number exactly once, and the numbers in grey row are equal to the sum of corresponding columns.

		4		
1				2
			3	
11	11	8	9	6

5	3	4	1	2
1	4	3	5	2
5	4	1	3	2
11	11	8	9	6

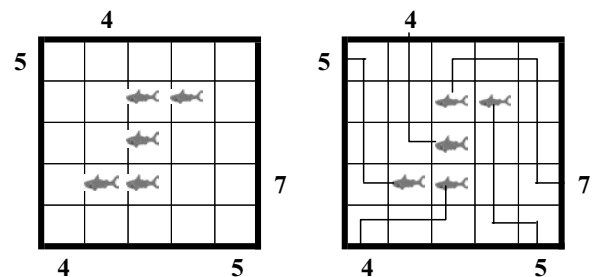
**74. BRIDGES**

Bridges is played on a rectangular grid with no standard size. Some cells start out with numbers from 1 to 8 inclusive; these are the islands. The rest of the cells are empty. The goal is to connect all of the islands into a single connected group by drawing a series of bridges between the islands. The bridges must follow certain criteria: They must begin and end at distinct islands, travelling a straight line in between; They must not cross any other bridges or islands; They may only run orthogonally; At most two bridges connect a pair of islands; and The number of bridges connected to each island must match the number on that island.



**75. ANGLERS**

The anglers sit on the shore of the lake represented by the large square. Each angler has caught one fish. The numbers representing the anglers show how long their rope is until their fish. The ropes only move horizontally or vertically through the middle lines of the squares, and do not cross each other. Work out which fish belongs to which angler, and the paths of the ropes.



**76. EQUAL OR NOT EQUAL**

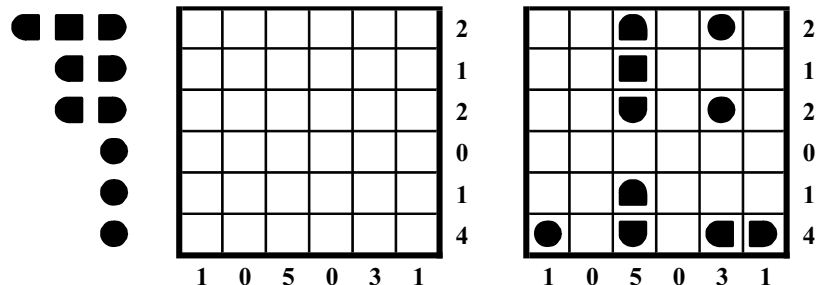
Write digits between 1 and 7 into the empty fields that all the marked relations become true.

	>		<	
v	■	v	■	
	>		<	
^	■	^	■	v
	>		>	

3	>	2	<	3
v	■	v	■	
2	>	1	<	3
^	■	^	■	v
3	>	2	>	1

**77. BATTLESHIPS**

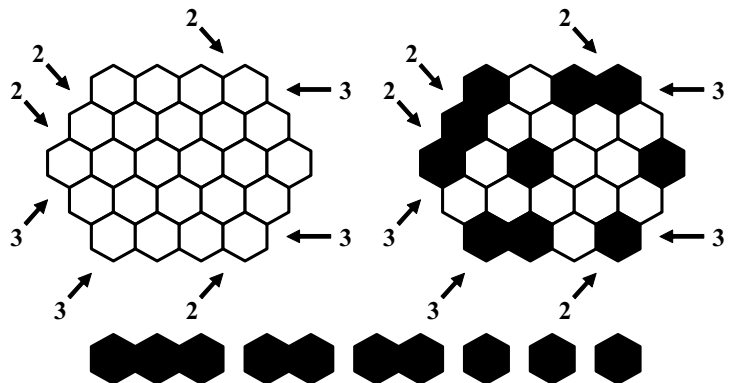
Place the entire fleet in the diagram. Ships can be lying horizontally or vertically, and must not touch each other, not even diagonally. The numbers along the sides of the diagram show how many parts of vessels can be found in the corresponding row or column.





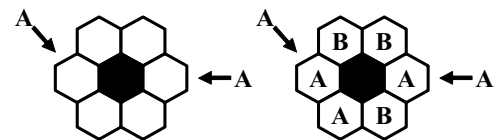
**78. BATTLESHIPS IN HEXAGON**

Place the entire fleet in the diagram. Ships can be lying horizontally or diagonally, and must not touch each other. The numbers along the sides of the diagram show how many parts of vessels can be found in the corresponding row or column.



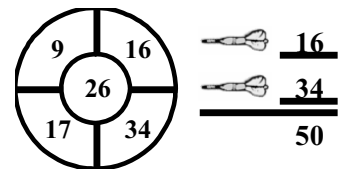
**79. POPULATION COUNT**

There are 6 from each letter A, B, C in the diagram. The letters at the end of the rows and diagonals show which letter is the most populous in the corresponding row or diagonal.



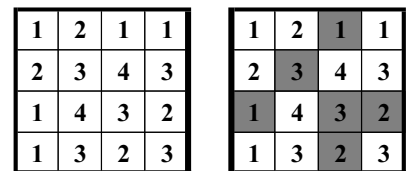
**80. DARTS**

The number of arrows show how many hits should be placed on the field so as to the sum of the hit numbers is 100. Each field can be hit only once.



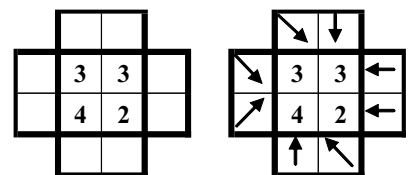
**81. SHADING**

Paint some cells of the grid. The numbers in the squares tell you how many of the eight squares around the number are grey (the number's cell is not included).



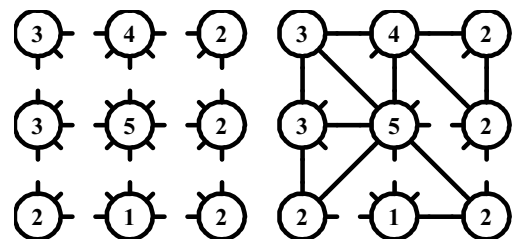
**82. ARROWS**

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



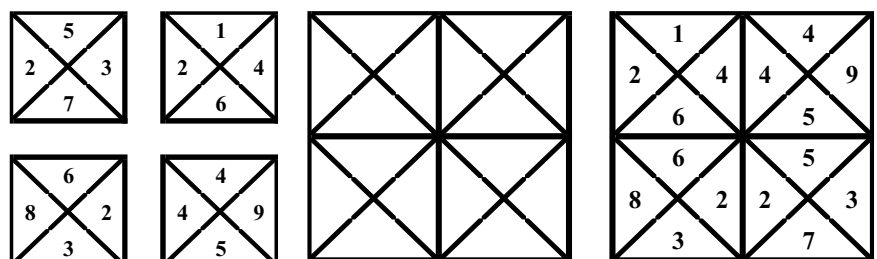
**83. SPOKES**

Draw spokes connecting neighbouring hubs, horizontally, vertically and diagonally. The number in each hub indicates the number of the spokes that are connected to that hub. All hubs are interconnected, and spokes cannot intersect.



**84. NEIGHBOURING NUMBERS**

Put the pieces into the figure without rotating and mirroring. The touching sides must contain the same number.





**85. JAPANESE BATTLESHIPS**

Place the entire fleet in the diagram. Ships can be lying horizontally or vertically, and must not touch each other, not even diagonally. The numbers on the left of each row and the top of each column tell how many battleship parts there are in that line, and, in order, how long these parts are.

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

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



**86. VALUED CAPSULES**

Put numbers between 1-3 into the empty squares so that each of them appears the same number of times in each row and column. No two neighbouring square may contain identical numbers. Moreover, each capsule (marked by thick lines) contains each number exactly once.

1				
		3		
1				
		1		2

1	3	2	1	3	2
3	2	1	3	2	1
2	1	3	2	1	3
1	3	2	1	3	2
3	2	1	3	2	1
2	1	3	2	1	3

**87. CORAL SEARCH**

The figure indicates a sea with a coral hiding. The coral consists of continuous fields (diagonal neighbourhood is not enough) and cannot touch itself, not even diagonally. The numbers indicate the continuous parts of the coral in the given row or column (similarly as in the "Paint it black" puzzles). To make the problem more difficult, the numbers are given in increasing order. Finally, no part of the coral can cover a 2x2 square entirely.

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

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

**88. MAGNETS**

The diagram contains magnetic and non-magnetic plates of size 2x1. Each magnetic plate has a positive (+) and a negative (-) part (pole). Poles with the same charge cannot border on any side as they repel each other. However, their corners can touch. Non-magnetic plates can be placed next to any other plates, magnetic and non-magnetic ones each. The non-magnetic plates should be blackened.

The numbers of + and - charges in each row and column are indicated. Mark the position of all plates.

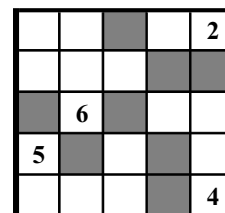
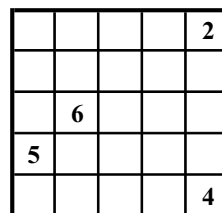
						3	1
						1	3
						3	2
						2	3
						2	1
						1	2
3	1	2	2	2	2	+	
2	2	2	1	3	2		-

+			+	-	+	3	1
-			-	+	-	1	3
+	-	+		-	+	3	2
-	+	-		+	-	2	3
+	-	+				2	1
			-	+	-	1	2
3	1	2	2	2	2	+	
2	2	2	1	3	2		-



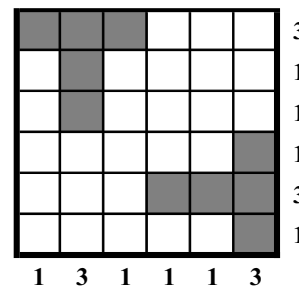
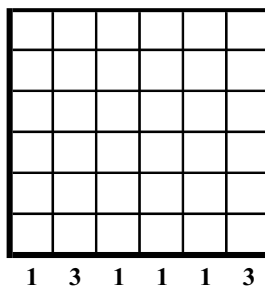
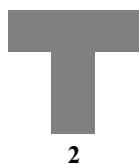
**89. ISLANDS**

Blacken some cells such that every remaining white region contains exactly one cell with number in it equal to the region's size in cells.



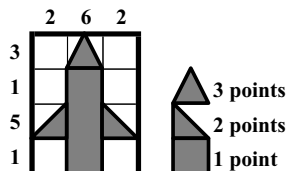
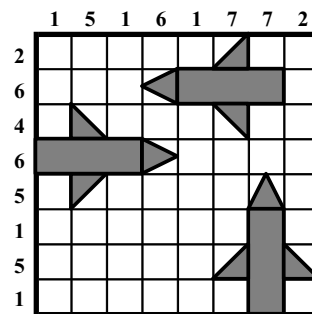
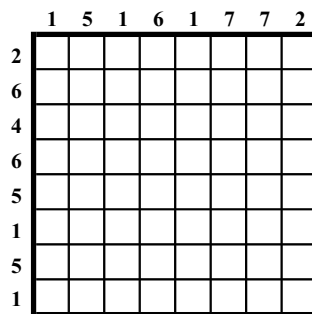
**90. T-SHAPES**

Place 7 T-shaped pentominoes into the grid, such that they do not touch each other, not even diagonally. Shapes may be rotated. Numbers outside the grid indicate the number of cells occupied by T-shapes in the consecutive row or column.



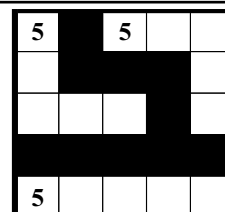
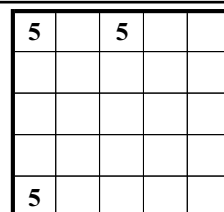
**91. INVASION**

An invasion of five airplanes hit a 9x10 rectangle. All the planes have the same shape (illustrated) and can occur in the network in four possible positions. Each airplane consists of six segments. Each segment has its own point value. The plane tip is worth 3 points, each wing 2 points and each square of body 1 point. The numbers on the sides of the grid indicate the number of points in the particular line or column. The task is to disclose the positions of all five airplanes. The squares with segments of two or more of the planes do not touch each other, not even diagonally.



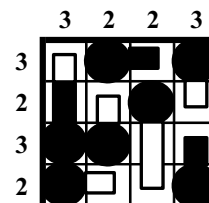
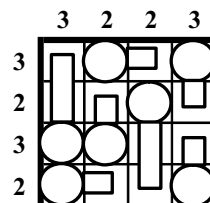
**92. GARDENS**

The diagram contains small gardens (connected areas containing squares that are left white) separated by one hedge (a connected formation consisting of black squares). Every garden consists of the number of white squares that the given numbers show. Every small garden contains only one number. The small gardens may only touch each other at the vertexes. A 2x2 area may contain only 3 black squares.



**93. THERMOMETERS**

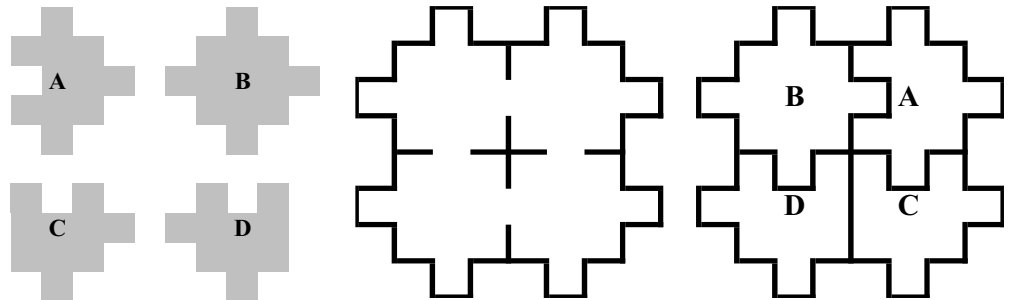
There are thermometers in the grid, on which the height of the fluid shows the temperature. The fluid starts from the rounded end of a thermometer. It is possible, that there is no fluid in a thermometer. The numbers besides the grid shows number of squares, that contain fluid in the given row or column.





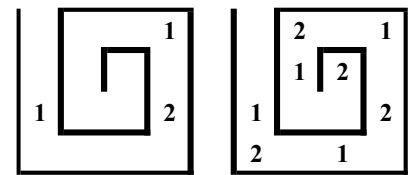
**94. PUZZLE**

Put all the parts of the letter puzzle into their correct places in the diagram. The parts cannot be rotated or reflected.



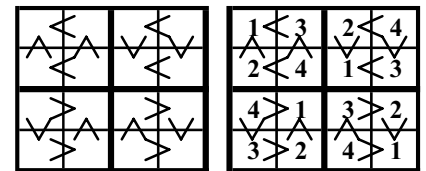
**95. MAGIC SNAIL**

Fill the grid with the numbers 1, 2 and 3 so that all three numbers appear exactly once in each row and column. If you go in a spiral from the entrance to the centre of the snail, the numbers should follow in order 1-2-3-1...



**96. SUDOKU WITH RELATIONAL SIGNS**

Write numbers between 1 and 6 into the empty fields such that each number occurs in all rows, columns and the sections bordered by bold lines exactly once. Numbers have to be placed according to the relational signs.



**97. SUM TO DO**

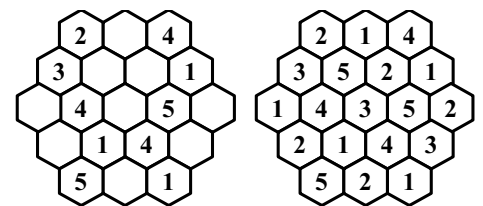
Each cell contains a number from 1 to 9. The numbers outside the grid indicate the sum of the numbers in the corresponding row, column or diagonal.

				20
		9		13
	7			14
			6	26
4				22
14	25	24	12	14

				20
1	1	9	2	13
1	7	5	1	14
8	9	3	6	26
4	8	7	3	22
14	25	24	12	14

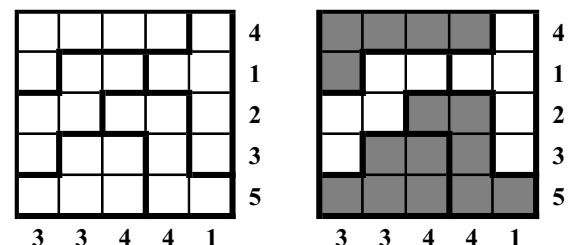
**98. MAGIC HEXAGON**

Fill in the grid with numbers from 1 to 7 such that all numbers are different in each row and diagonal.



**99. PAINT BY PENTOMINO**

Each pentomino in the grid is either all black or all white. Paint some of the pentominoes black such that the number of black cells in each row and column is the number at the end of the row or column.



**100. PAINT IT IN TWO COLOURS**

The numbers on the left of each row and the top of each column tell you how many continuous groups of squares of different colours there are in that line, and, in order, how many consecutive coloured squares are in each group. Between two groups of squares of the same colour there is at least one, but maybe more white squares, but groups of squares of different colours can meet.