

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	

H			H	H	H		
	H	H				H	H
	H			H		H	
	H	H	H		H	H	
			H				H
	H	H			H		
	H			H			H
		H				H	

15 points

		H		H		H	H
	H	H			H		
H							H
		H		H	H		H
	H				H		
H		H			H		H
	H		H				H
	H		H	H		H	

15 points

## 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	

					8		
5			5				
					8		
				9			
	6						
					10		

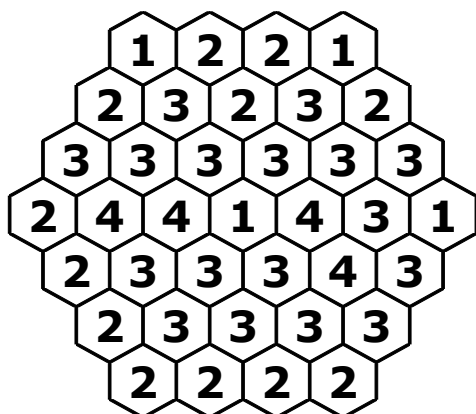
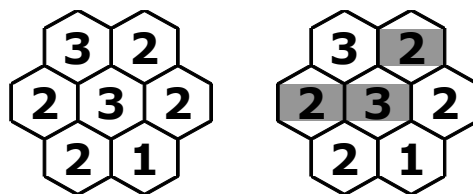
20 points

		9					
	8					4	
					6		
9							6
				10			

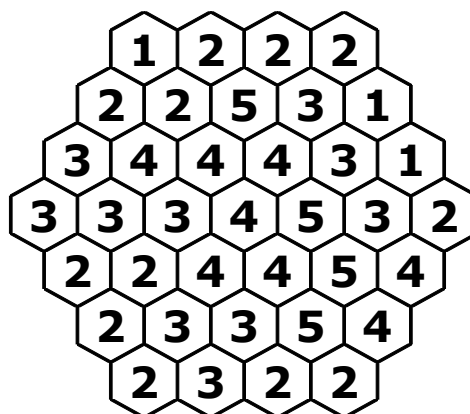
30 points

## Hexa Paint

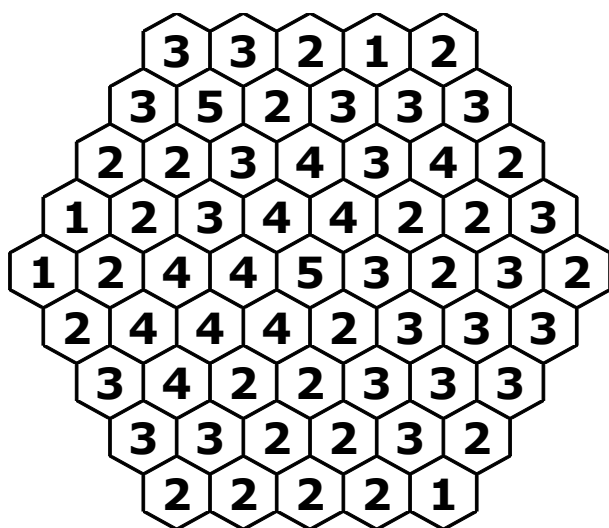
Paint some of the cells in the grid, so that the number in a cell indicates how many cells of its neighbours (including itself) are painted.



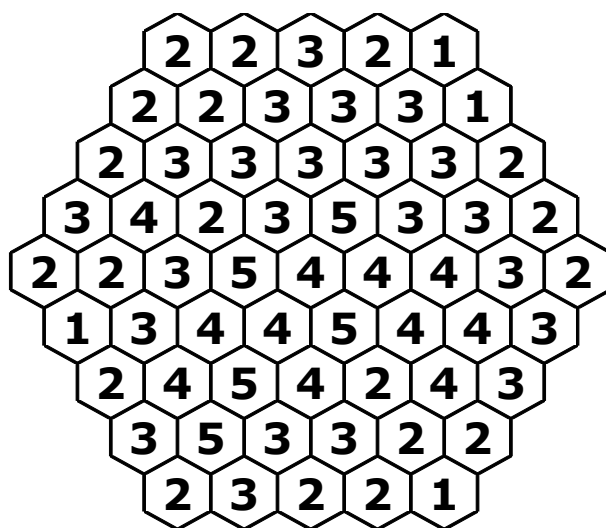
15 points



15 points



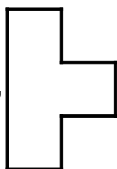
20 points



20 points

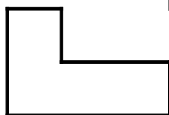
## Tetris Fences

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

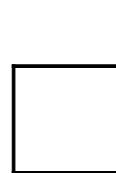
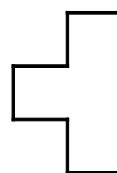
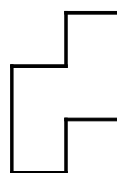
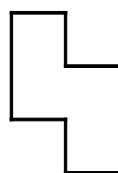
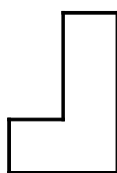
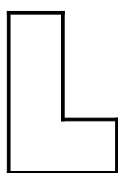
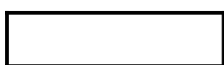


1		1	1				2
					2		
						2	
	2		1				2
		3		3		2	
					2		
		3					
			3				

40 points

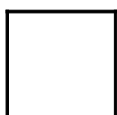
		1					
	1				1		
	2			2			3
2		2					
			2				
3				3			
	2					3	
							3

40 points



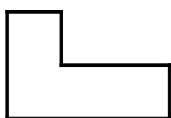
## Tetris cover

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.

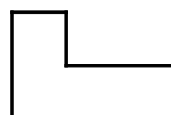
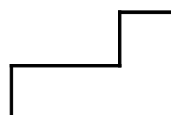


1	2	2	3
4	3	4	1
1	2	3	3
1	4	2	4

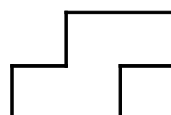
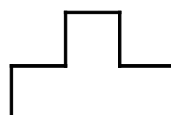
1	2	2	3
4	3	4	1
1	2	3	3
1	4	2	4



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

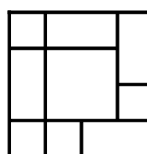


60 points

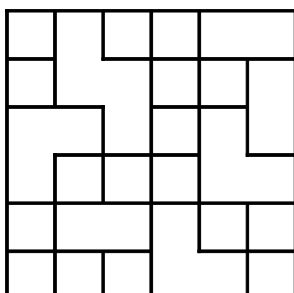


## Crack It On

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.

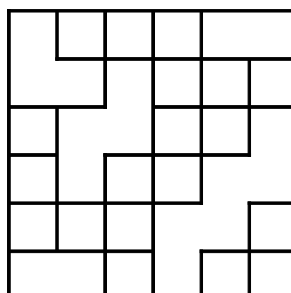


ALT, ART,  
FAL, FAT,  
IFA, IMA,  
MAA, MAR

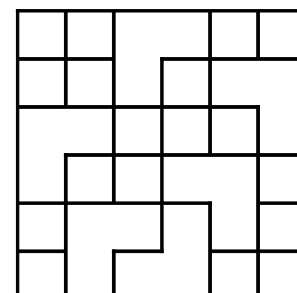


DLBBD    LPRLQ  
LBQTR    PDQBR  
LDMRP    QBMTL  
LDPMP    RDRMQ  
LMRTM    TDPLL  
LPMTM    TLLQR

30 points



03603    29403  
06918    35018  
10916    37218  
18350    41863  
21594    48531  
24315    50823

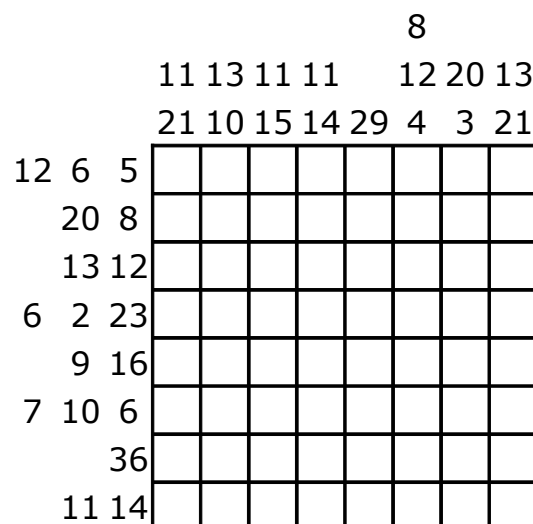
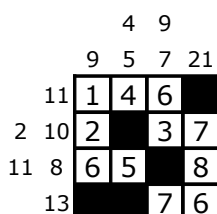
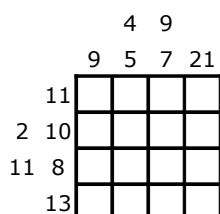


51232    71328  
53218    75739  
57090    79429  
60707    79673  
67258    89398  
69351    91812

60 points

## Japanese Sums

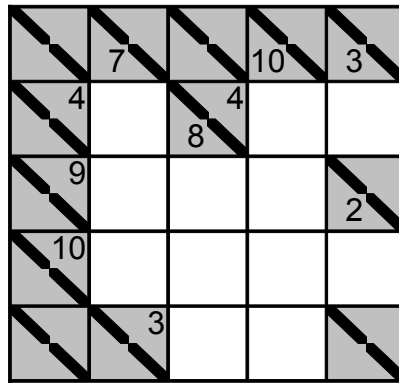
Enter numbers into the grid from 1 to 8 (one per cell), not repeating any of them in a row or column. Grid also contains black cells, separating the "number words". Numbers at the top and left side indicate in order the sum of numbers in the words in that row / column.



70 points

## DominoKakuro

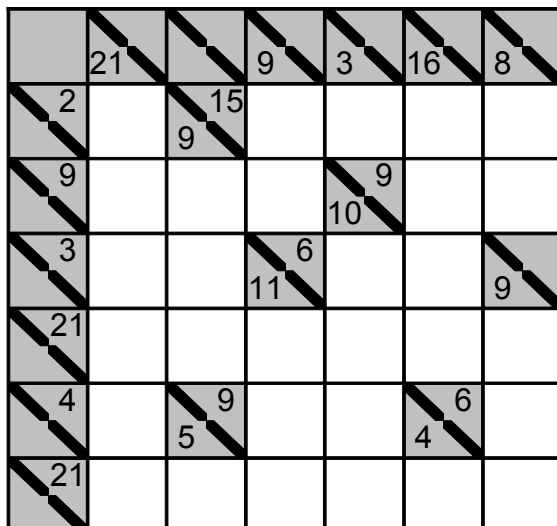
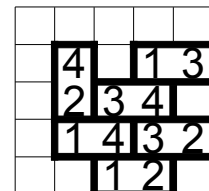
Place the given domino set into the grid covering the empty cells, so that they do not overlap each other. Given numbers indicate the sum of the "number word" starting from that definition cell to the right / down. No digit is ever repeated in a "word".



1 2

1 3    2 3

1 4    2 4    3 4



1 2

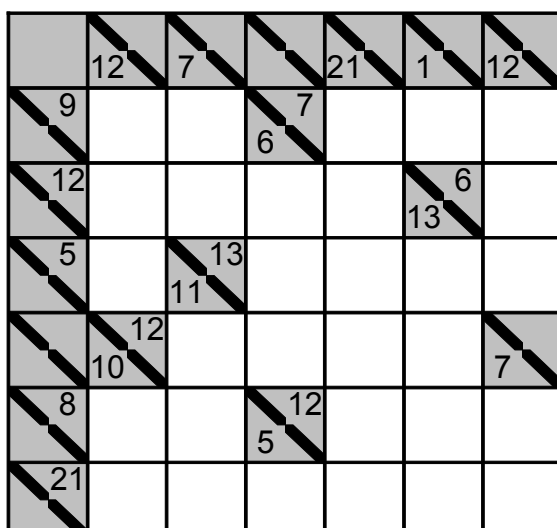
1 3    2 3

1 4    2 4    3 4

1 5    2 5    3 5    4 5

1 6    2 6    3 6    4 6    5 6

40 points



1 2

1 3    2 3

1 4    2 4    3 4

1 5    2 5    3 5    4 5

1 6    2 6    3 6    4 6    5 6

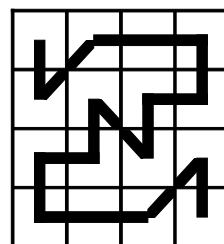
70 points

## 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.

CITY

C	T	Y	C
I	C	T	I
T	I	Y	T
Y	C	I	Y



VOLVO

V	O	L	L	V	O	V
L	O	V	V	O	L	O
V	L	O	V	O	V	L
O	O	V	V	O	O	V
V	O	V	O	L	V	O

45 points

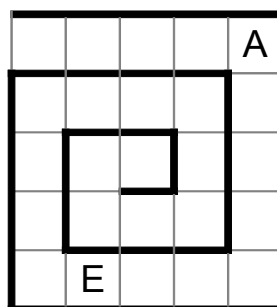
TOYOTA

T	O	Y	T	A	T	O	Y
T	O	T	O	T	T	A	O
A	O	Y	A	O	O	T	T
T	T	O	Y	Y	A	O	O
O	A	O	T	T	O	Y	T
Y	O	T	A	T	O	Y	A

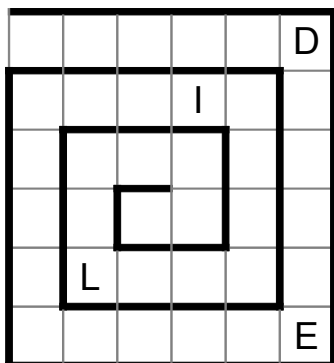
45 points

## 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.

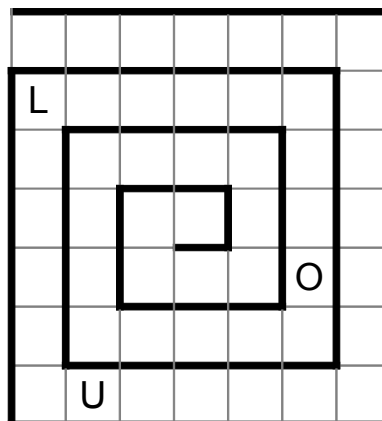


GRAPE, MELON, ORANGE



FIAT  
FORD  
LADA  
MINI  
OPEL  
SEAT

30 points



HONDA  
ISUZU  
LOTUS  
ROVER  
SKODA  
TATRA  
VOLVO

60 points

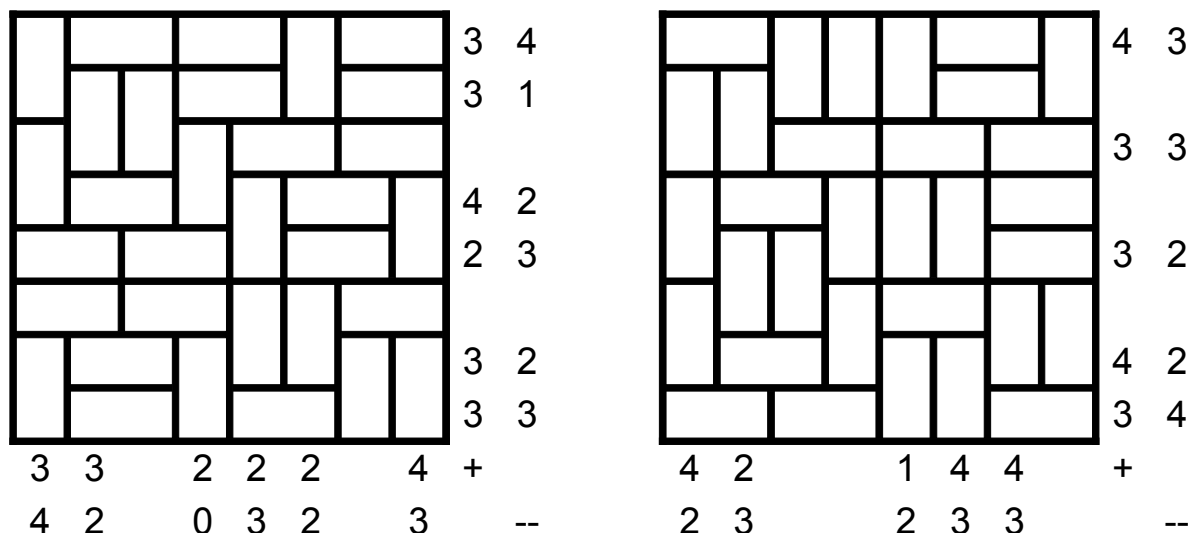
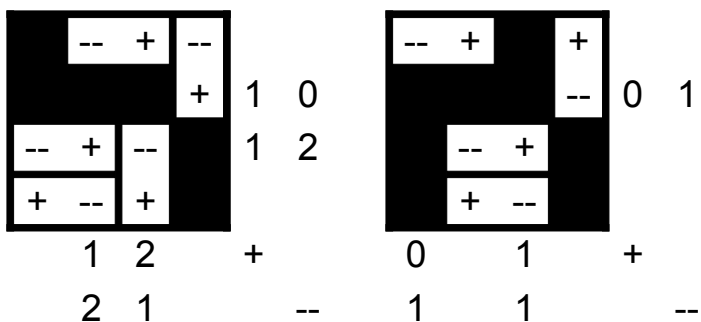
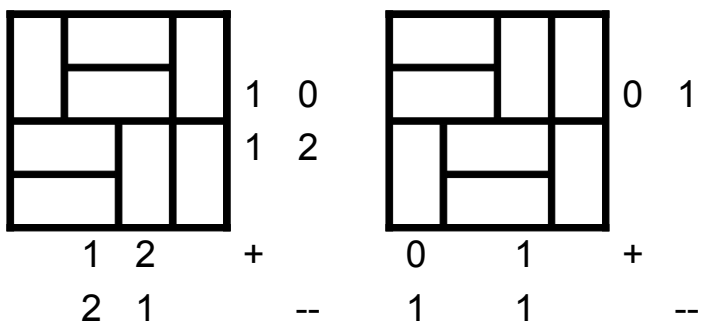
## TwinMagnets

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.

The 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.

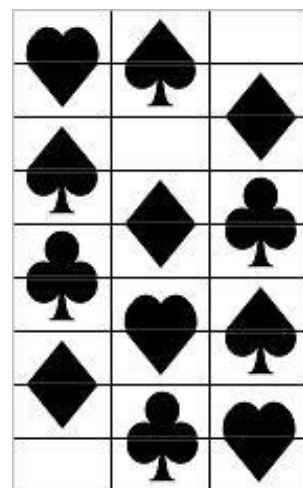
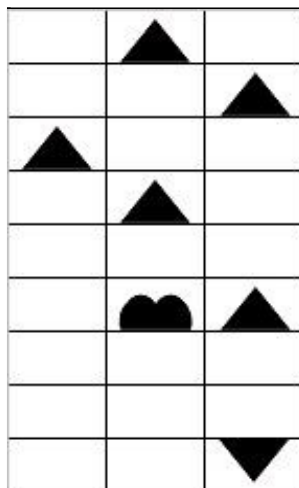


60 points



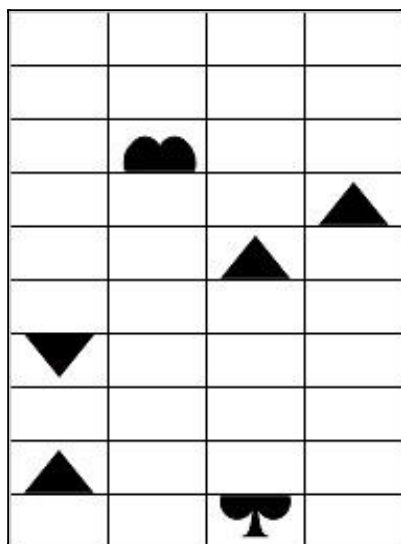
## Halfsuits

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

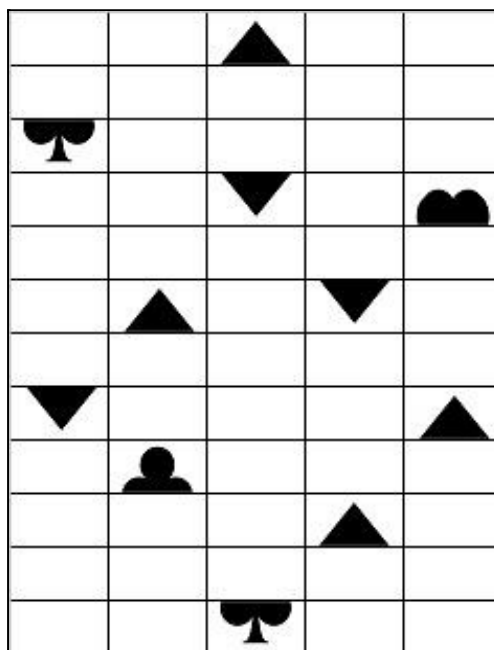


Using these half cards your task is to re-fill the grid according to the rules:

- \* 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.



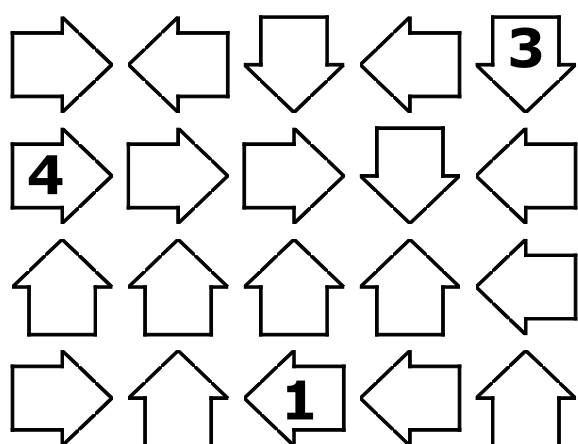
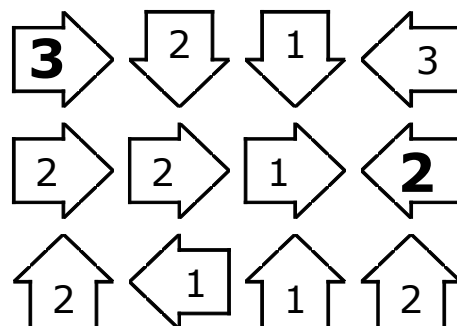
40 points



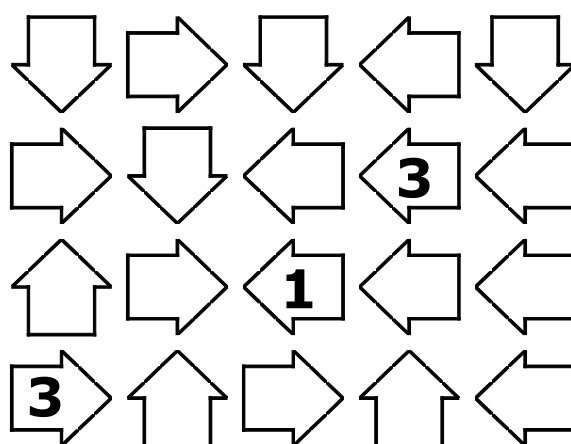
70 points

## Japanese Arrows

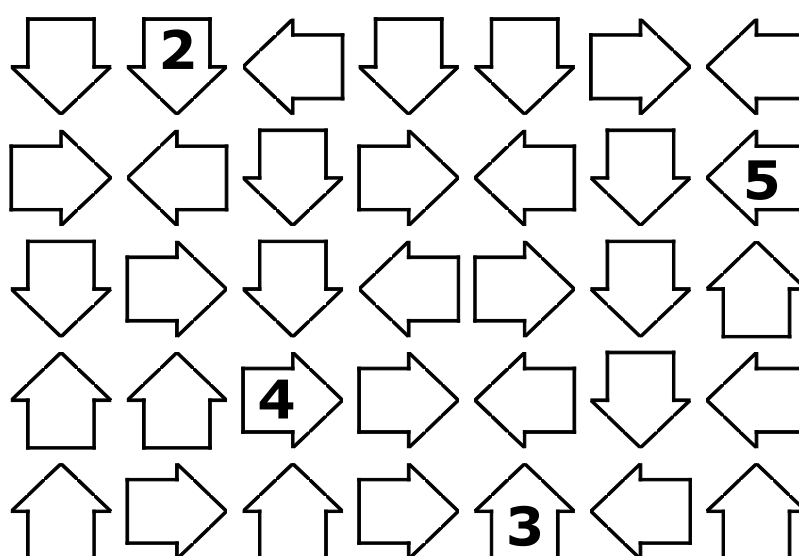
Write numbers into the arrows such that each number equals to the number of different numbers its arrow is pointing at.



20 points



30 points



40 points