

**WPC**



**TEST**

# **Answer Booklet**

This test is designed to practice some of the puzzles in WPC 2013.  
Official web page: <http://wscwpc2013.sudoku.org.cn/>

This test consists of 20 puzzles of 10 puzzle types,  
and they are divided into 2 parts; Classic and Non-classic.  
All puzzle types will appear in the WPC 2013.

<b>Classic</b>		<b>Non-classic</b>	
01 Fences	15+75pts	06 Wall	25+75pts
02 Star battle	10+70pts	07 Dotted Wall	20+65pts
03 Snake	10+80pts	08 Rolling maze	10+40pts
04 Kakuro	20+60pts	09 Windows	15+60pts
05 Battleships	15+60pts	10 Pentopia	20+55pts

**800pts / 90minutes**

**Bonus: 9pts per 1minute saved**

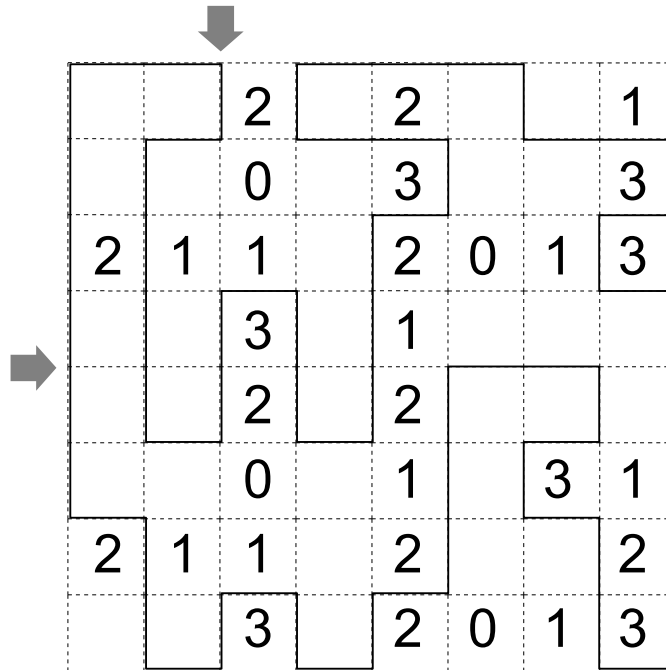
Awarded when all the solutions submitted correctly before the time limit  
and the "Claim Bonus" button is pressed.

# 01 Fences

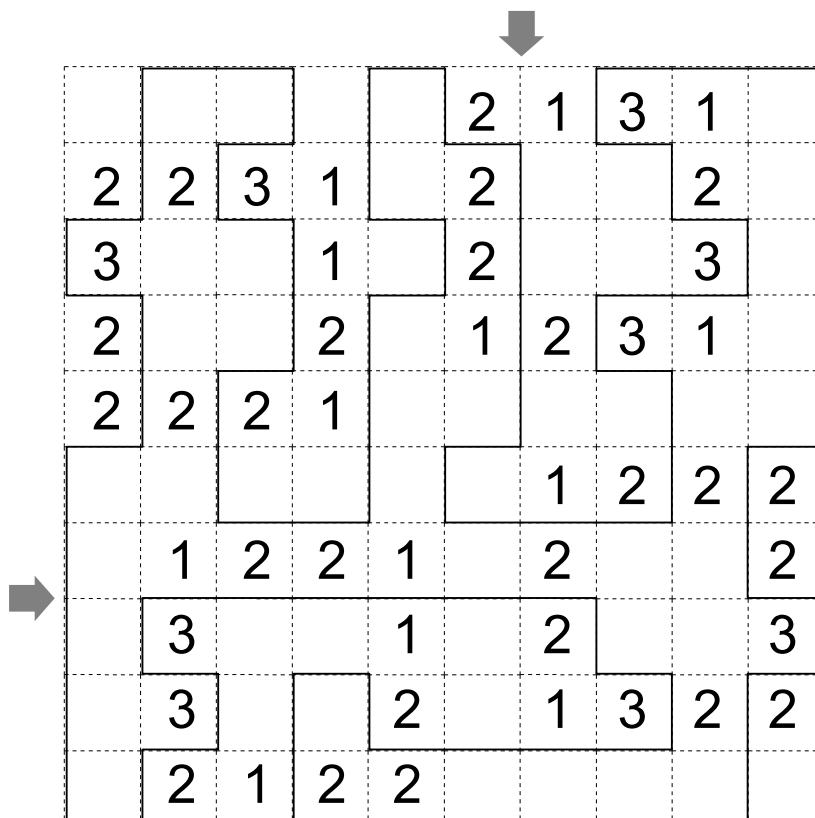
15+75pts

Draw a single closed loop into the grid so that it does not touch or cross itself.  
A numbers in a cell indicates the number of sides of that cell occupied by the loop.

Answer key: The lengths of each segment of the loop in the direction indicated by arrows.



Key: 2, 121



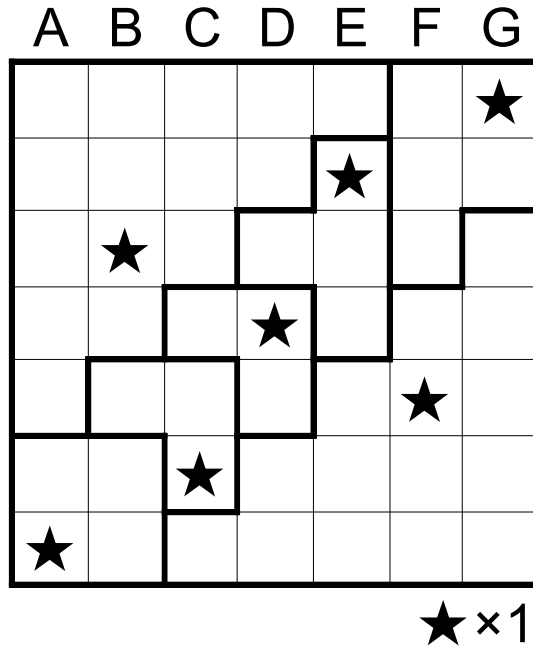
Key: 61, 4

## 02 Star battle

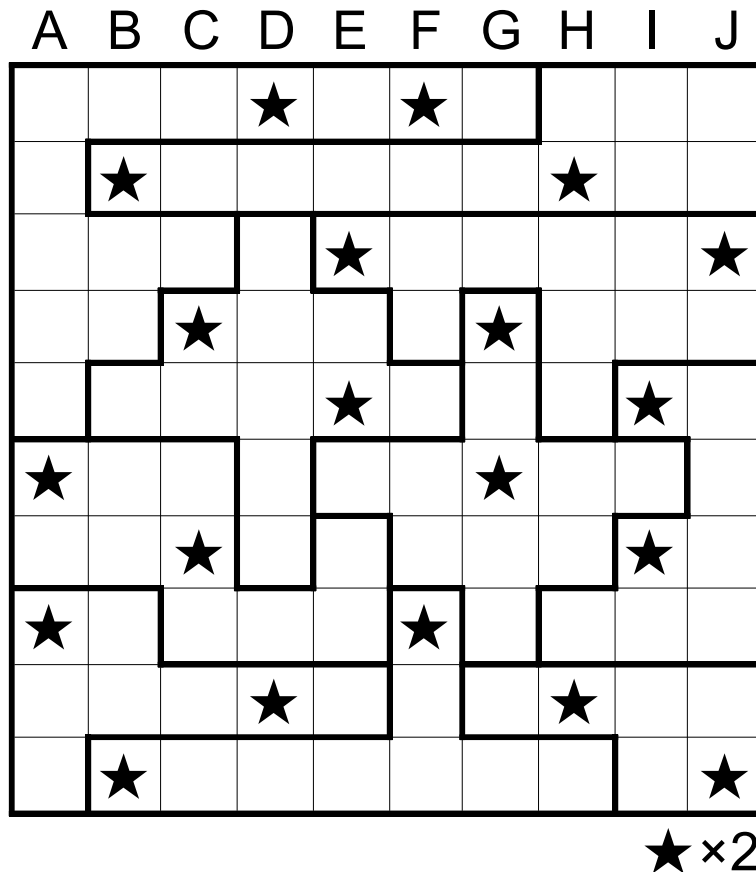
10+70pts

Place stars into the grid so that they don't touch each other even diagonally. There are the same number of stars in each row, column and bold-lined region. The number of the stars is shown beside the grid.

Answer key: The locations of the left-most stars of each line, from top to bottom.



Key: GEBDFCA



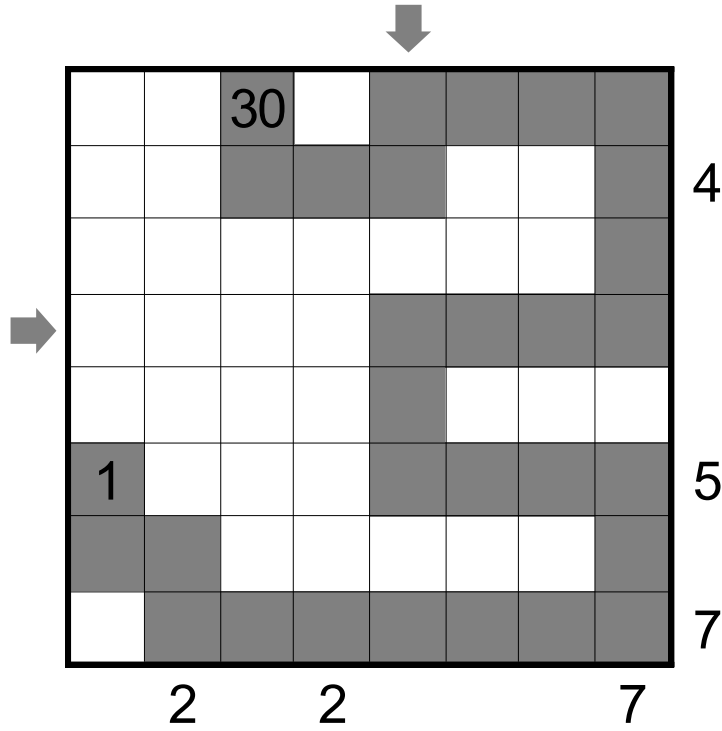
Key: DBECEACADB

# 03 Snake

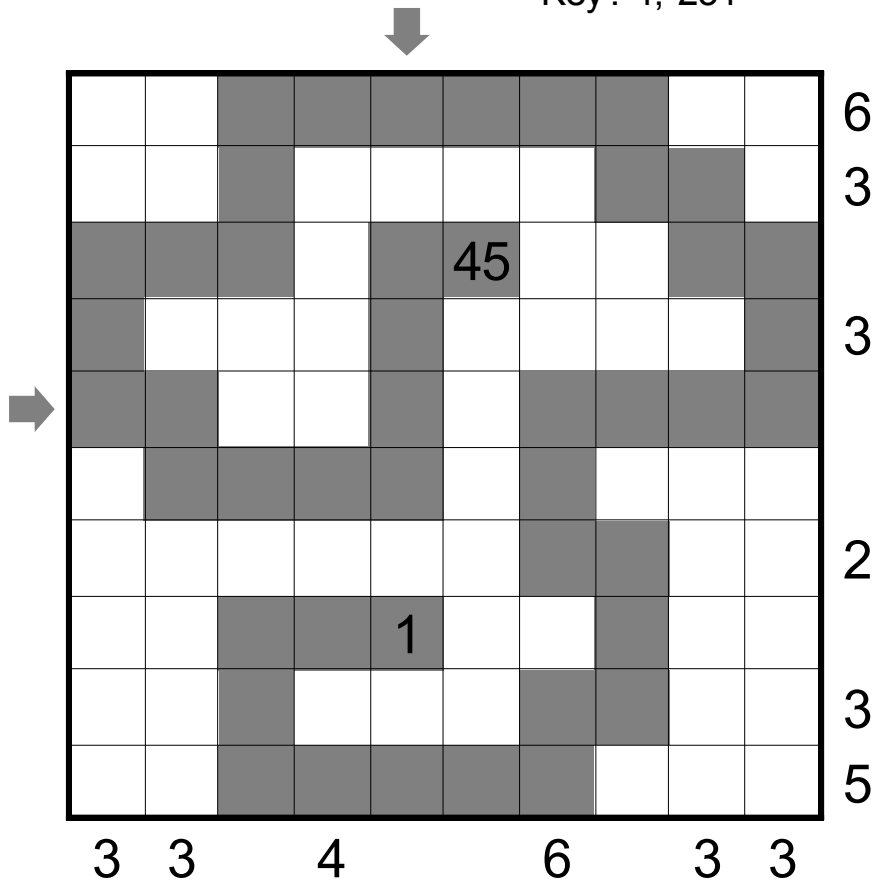
10+80pts

Find a snake in the grid whose body consists of horizontally and vertically connected black cells. The snake's body never touches itself, not even diagonally. The head and tail of the snake are given, and the number in the tail tells the length of the snake. Digits outside the grid indicate the number of cells occupied by the snake in that direction.

Answer key: The lengths of each segment of the snake in the direction indicated by arrows.



Key: 4, 231



Key: 214, 1411

# 04 Kakuro

20+60pts

Enter digits from 1 to 9 into all empty cells so that no digit repeat in any of the groups separated by shaded cells.

Clues indicate the sum of the digits of the corresponding group.

Answer key: Contents in the direction indicated by an arrow, ignoring shaded cells.

↓

	15	28		7	19	28	10		
4	3	1	19	1	9	6	3		
41	2	5	17	9	6	8	4	7	
11	1	2	8	5	2	3	12		
16	9	7	7		11	5	6		
	4	3	1	11	8	1	2		
28	3	4	2	14	5	6	7	1	
27	8	6	4	9	5	2	3		

↓

Key: 2596847, 6435172

↓

	24	11	10	34				10	34	24
19	7	1	2	9	16		24	9	8	7
33	9	3	8	6	7	21	9	1	6	5
13	8	5	29	8	9	5	7	16	7	9
	14	2	8	4	18	1	2	8	4	3
		28	9	7	8	4	16	7	9	
	16	9	7	12	4	2	1	5		
16	1	3	4	6	2	20	4	9	7	24
3	2	1	19	7	1	9	2	16	9	7
21	3	5	4	9	35	7	6	9	5	8
7	4	2	1			27	3	7	8	9

↓

Key: 938679165, 135293152

# 05 Battleships

15+60pts

Place the given ships into the grid so that they do not touch each other even diagonally. Clues outside the grid indicates the number of the cells occupied by ships. Ships can't be in cells with an wave.

Answer key: The content in the direction indicated by arrows.  
Write 1 for the cells with ship segment, 0 for the other ones.

A 9x9 grid puzzle. The grid contains several ships and waves. Clues are provided for the top and left sides. The top clues are 5, 3, 1, 2. The left clues are 4, 2, 1, 7, 1. To the right of the grid, there are four rows of ship icons: a 1x4 ship, a 2x3 ship, a 3x2 ship, and a 4x1 ship. The grid shows a 1x4 ship at (1,2)-(1,5), a 2x3 ship at (2,2)-(3,2), a 3x2 ship at (2,3)-(4,3), a 4x1 ship at (2,8)-(5,8), and a 1x4 ship at (7,1)-(7,4). Waves are present in rows 1, 2, 3, 4, 5, 6, 7, 8, and 9 at various columns.

Key: 010010000, 001000100

A 9x9 grid puzzle. The grid contains several ships and waves. Clues are provided for the top and left sides. The top clues are 6, 1, 1. The left clues are 2, 0, 1, 3, 6. To the right of the grid, there are four rows of ship icons: a 1x4 ship, a 2x3 ship, a 3x2 ship, and a 4x1 ship. The grid shows a 1x4 ship at (1,1)-(1,4), a 2x3 ship at (2,1)-(3,1), a 3x2 ship at (2,7)-(4,7), a 4x1 ship at (2,8)-(5,8), and a 1x4 ship at (7,1)-(7,4). Waves are present in rows 1, 2, 3, 4, 5, 6, 7, 8, and 9 at various columns.

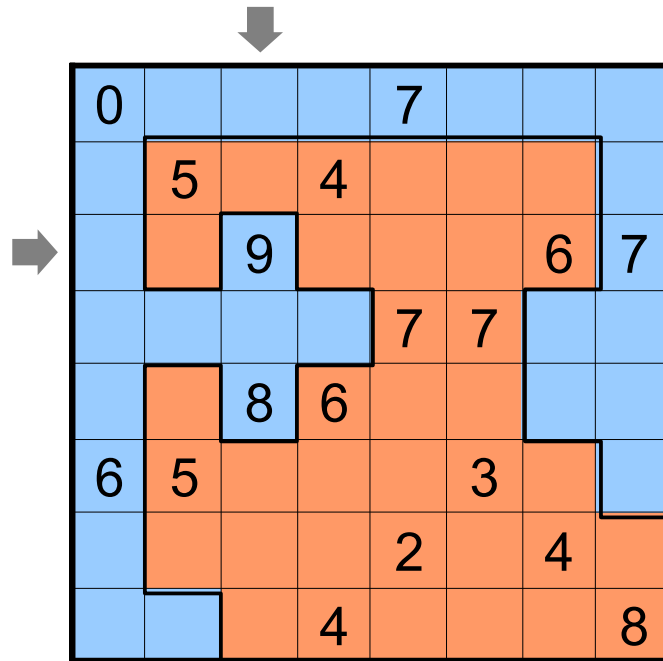
Key: 10001011, 00101010

# 06 Wall

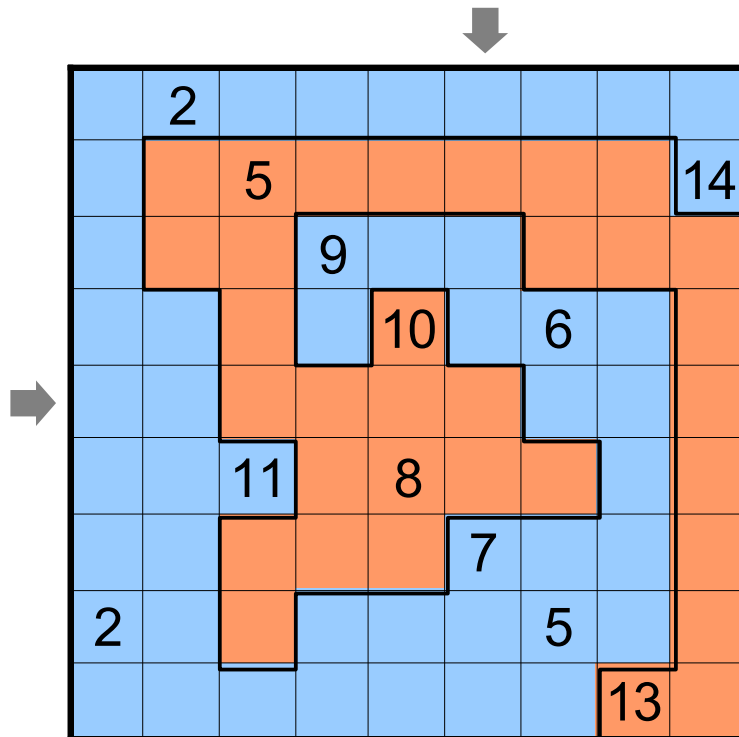
25+75pts

Divide the grid into two connected parts with a single continuous "Wall".  
 Number in a cell indicates the number of cells of "the other part" in the same row or column.

Answer key: Lengths of cells divided by the Wall in the direction indicated by an arrow.



Key: 11141, 1133



Key: 2421, 11223

# 07 Dotted wall

20+65pts

Blacken some empty cells so that all the black cells will be connected horizontally or vertically.

No 2x2 area can be all blackened.

Then, counting from left to right, then top to bottom, place a dot into every Nth black cell.

It is part of the puzzle to determine the value of N.

The number of the black cells does not have to be a multiple of N.

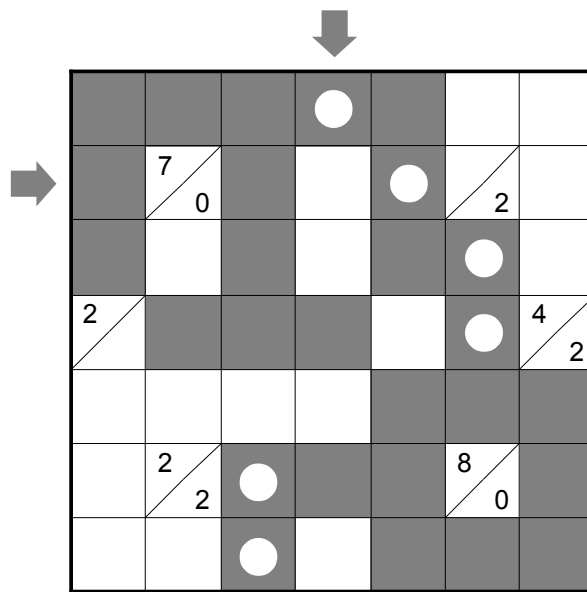
Some cells are clue cells; they are halved and has one or two numbers.

Clue cells can't be blackened.

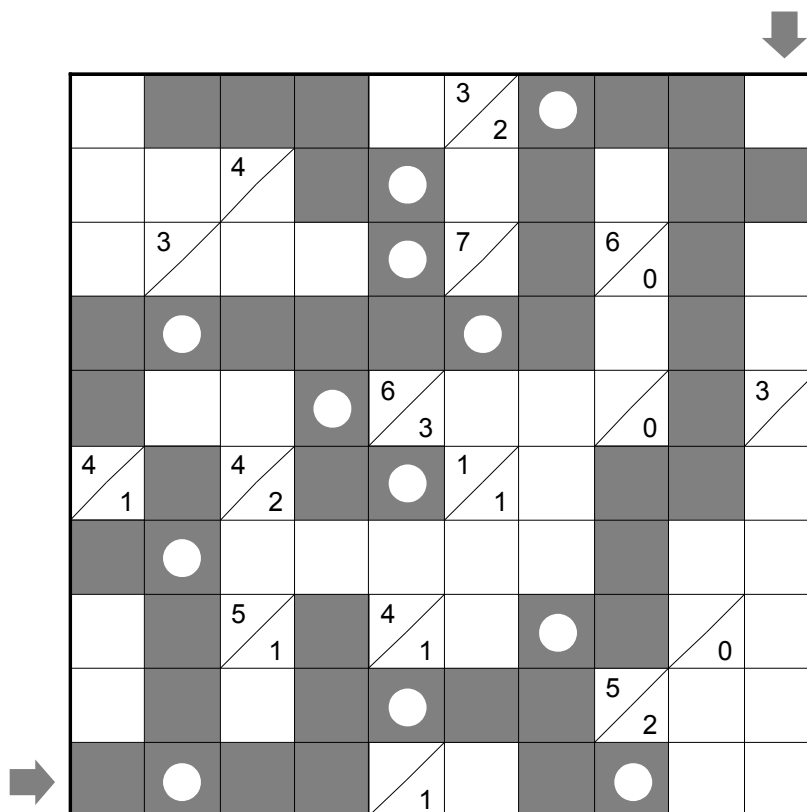
The top number indicates how many cells around that cell are blackened.

The bottom one indicates how many cells around that cell has dots.

Answer key: The lengths of the black cells in the direction indicated by arrows.



Key: 111, 111



Key: 42, 1



## 08 Rolling maze

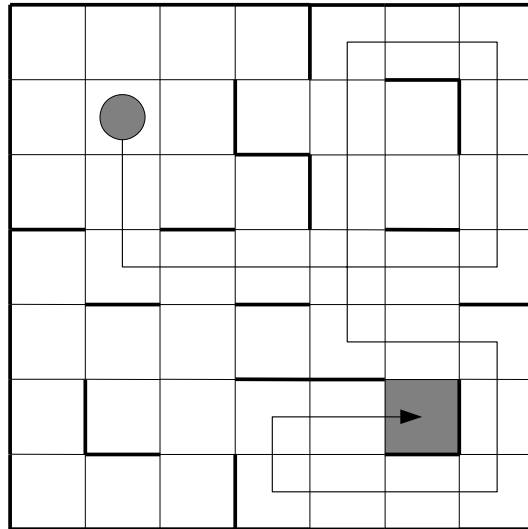
10+40pts

Find a sequence of given number of moves so that the ball will finally stop on the gray cell.

The number will be shown beside the grid.

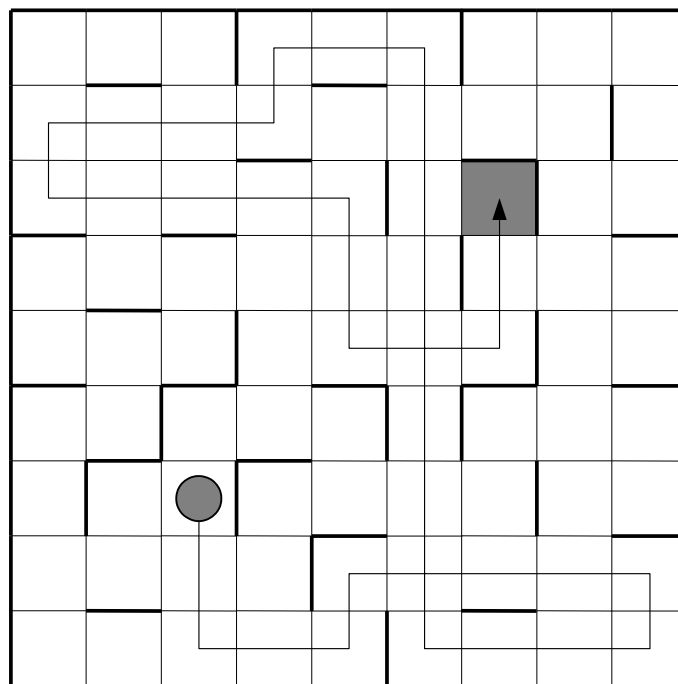
In each move, the ball rolls in one of the 4 direction (Up, Down, Left, Right), until it hits a wall.

Answer key: Write the sequence with U, D, L or R.



10 moves

Key: DRULDRDLUR



15 moves

Key: DRURDLULDLDRDRU

# 09 Windows

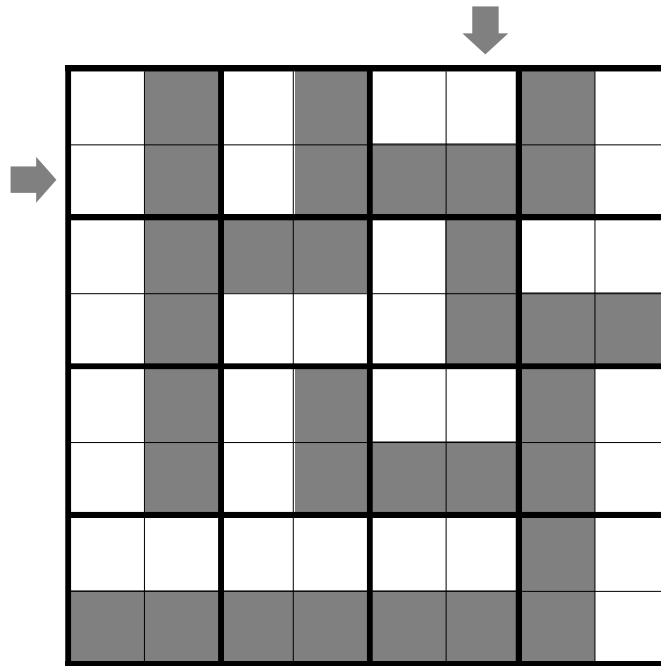
15+60pts

For each 2x2 area, blacken two of its cells.

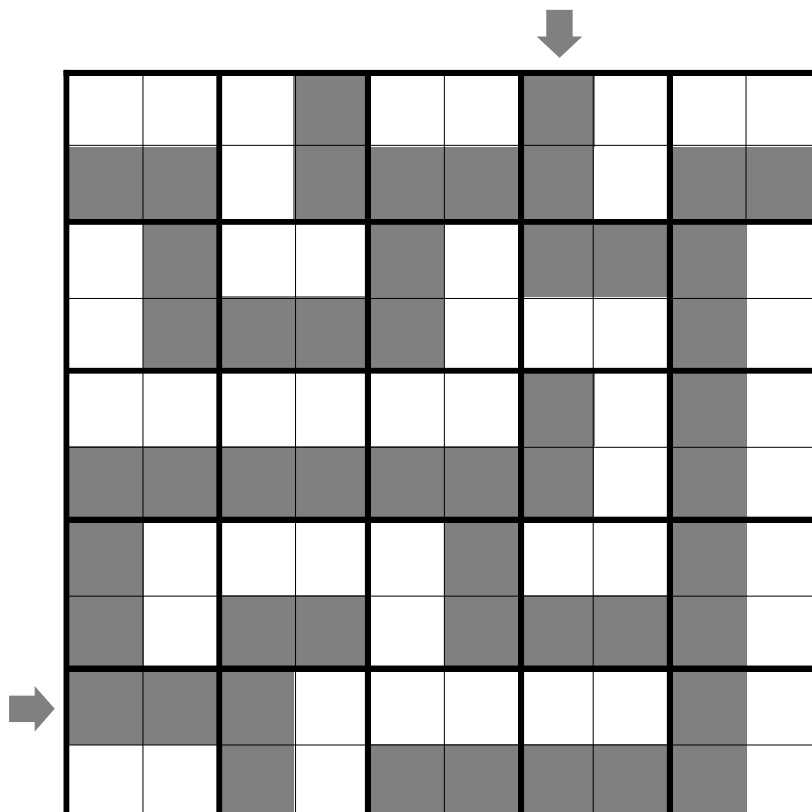
The black cells will form a Corral; Corral is a single connected group without 2x2 area, it does not surround any white areas and it can't touch itself even diagonally.

No 2x2 area can all remain white.

Answer key: The lengths of the black cells in the direction indicated by arrows.



key: 14, 311



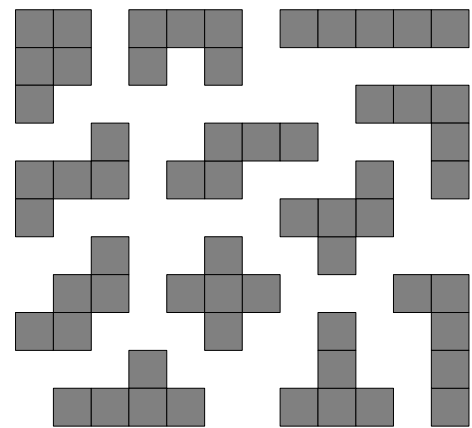
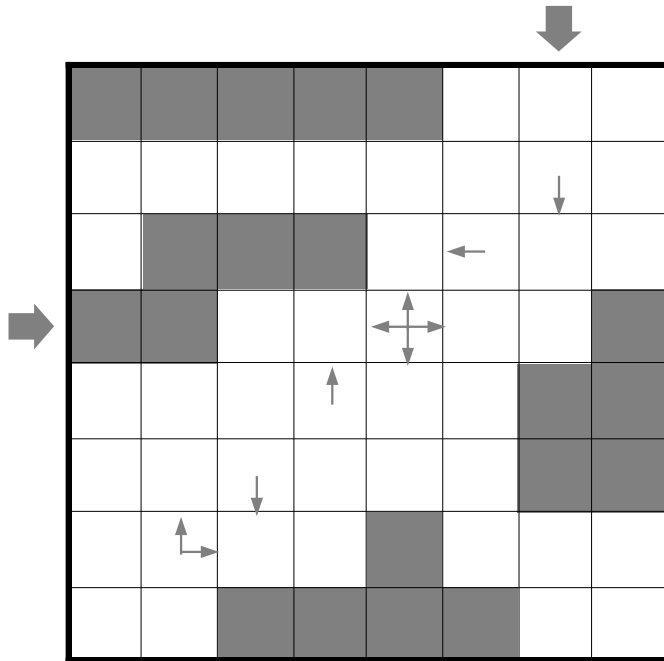
Key: 31, 3211

# 10 Pentopia

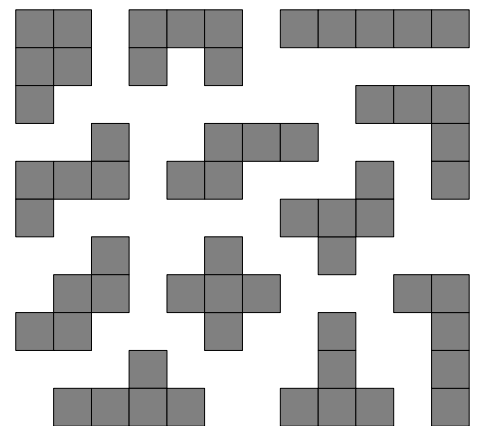
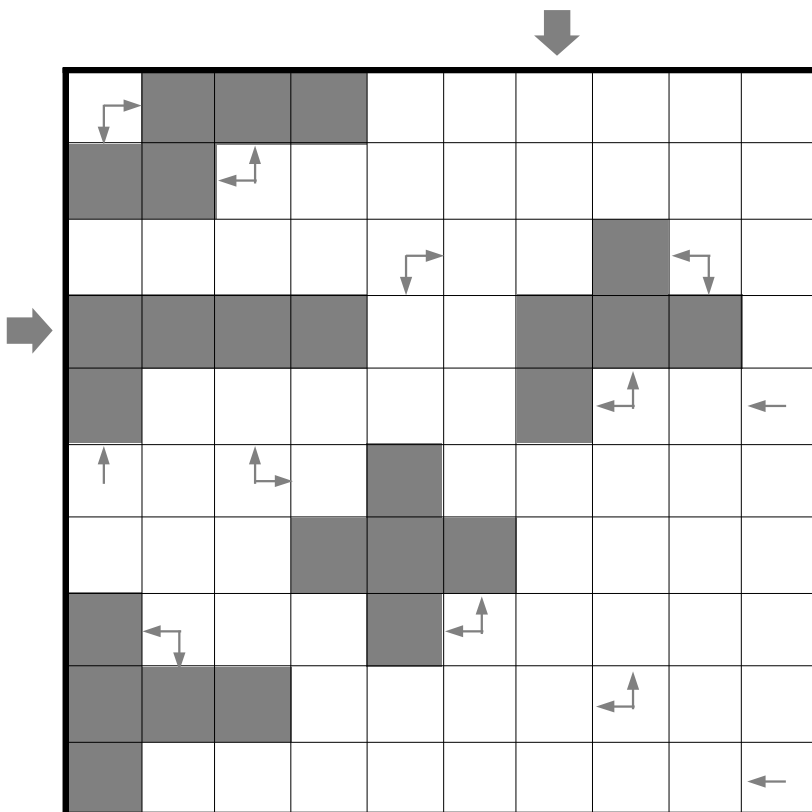
20+55pts

Place some of the given pentominoes so that they do not touch each other even diagonally. Each pentomino can be rotated, but not reflected. Arrows indicate all the directions of the closest cell with pentomino among the four directions. Cells with arrow can't be occupied by any pentomino.

Answer key: The lengths of the cells with pentomino in the direction indicated by arrows.



Key: 21, 2



Key: 43, 2