WPF SUDOKU GRAND PRIX 2013

Serbian round at Logic Masters India

20^{th} – 22^{nd} April

INSTRUCTIONS

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WPF Sudoku Grand Prix

This competition will be used as Serbian round of WPF Sudoku Grand Prix (Sudoku GP). You can read more about the GP at WPF website (http://www.worldpuzzle.org/sudokugp/). If you want your results to be considered for Sudoku GP, you must have yourself registered at the same page, if you have not done so earlier.
This competition will also be used as LMI April monthly Sudoku test. You have the option for participating only for the Sudoku GP, and not for LMI ratings.

How to participate?

This instruction booklet lists all the Sudoku types that will appear in the competition. It is most important to read and understand the rules of all the types. If you have any questions, please ask the organizers at LMI forum, preferably before the competition starts. If you are participating at LMI for first time, you must check the How To Participate page at http://logicmastersindia.com/2013/02S/how-to.asp.

List of Sudoku types

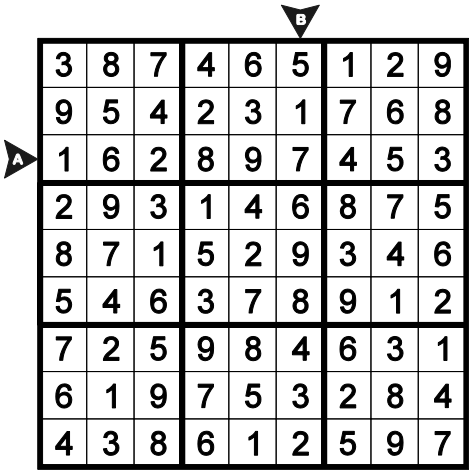
The list of Sudoku types and points distribution are shown below (all puzzles are 9x9). You will have 120 minutes (2 hours) to solve as many sudokus as possible.

Classic sudoku	**20**	Frameless sudoku	**60**
Quadruple sudoku	**32**	Renban Groups sudoku	**36**
Tennis sudoku	**51**	Even sudoku	**39**
Sudoku Extra Regions	**29**	Diagonal Consecutive sudoku	**68**
Arrows sudoku	**61**	Placement (shape) sudoku	**35**
Word Search sudoku	**71**	Thermo sudoku	**43**
Irregular sudoku	**72**	Killer sudoku	**108**
Little Killer sudoku	**157**	Movable Digits	**118**

Points typically indicate difficulty of the sudokus and time required to solve them. While the organizers have made best efforts to match them, your personal experience and preference may differ. Players submitting all sudokus with maximum 4 wrong cells will get 8 points per minute saved as bonus. Please note that GP considers only your rank (and not your score).

Answer keys

Each Sudoku will be marked with 2 lettered arrows (two rows, two columns, or row and column).
If you are solving on paper, you need to submit the digits (letters in puzzle 6) in marked rows/columns, in order, including the givens.
For example, the answer key for the Sudoku at the right is 162897453, 517698432.



Play Fair

Outside help of any kind for solving is not permitted. This includes but is not limited to: assistance of any kind from any other person; prepared notes, books, calculators, computers, mobiles / handheld devices or tools other than items explicitly permitted below.
You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, tape, and LMI's flash solving interface.
All entries and scores are subject to review for compliance of rules. The organizers reserve the right to disqualify any contestant if, in their sole judgment, they believe the rules have been violated.
In case of a dispute, protest, or other judgment, the decision of the organizers is final.

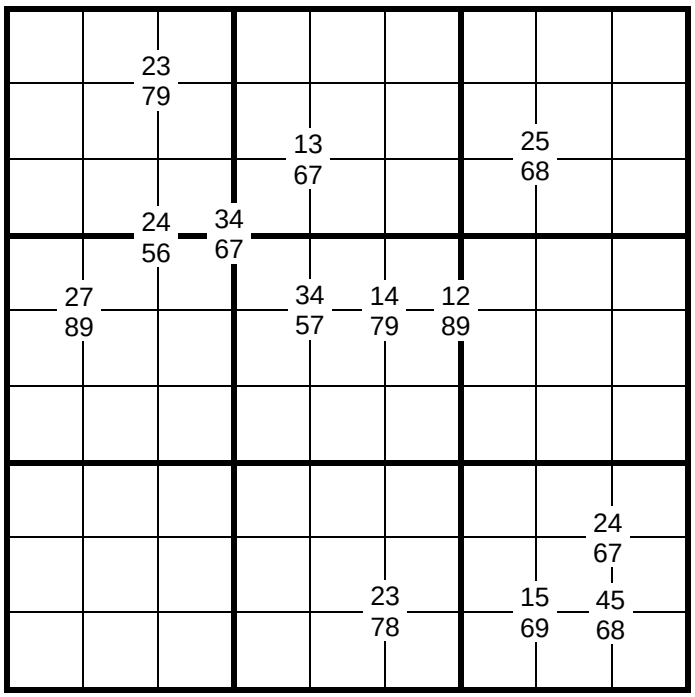
1. CLASSIC SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box.

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

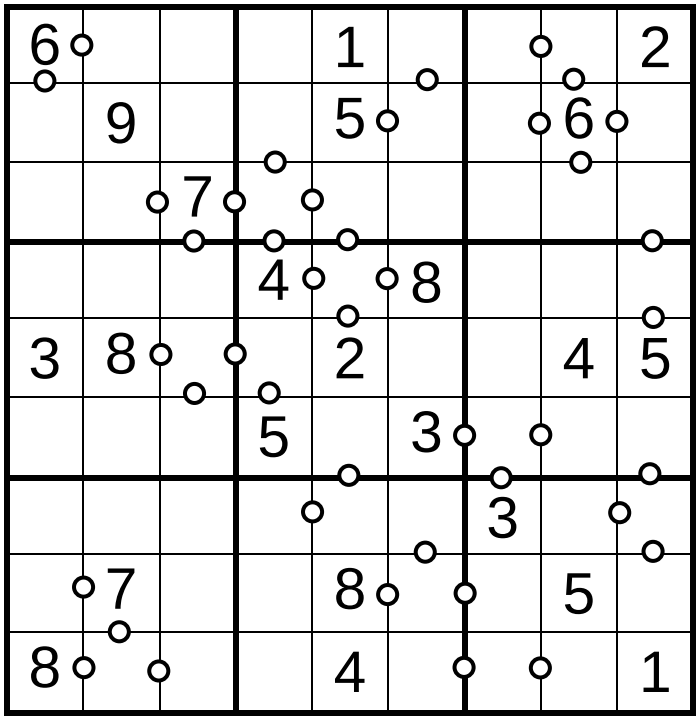
2. QUADRUPLE SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box. The clues are in the form of sets of four special clue-numbers. Each set of four numbers can be found at the intersection of two grid lines and they are the numbers in the four adjacent grid cells.



3. TENNIS SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box. All the regular results of the tennis set in the grid (orthogonally) are marked by white dots. The regular results of the tennis set could be 6-1, 6-2, 6-3, 6-4, 7-5, 7-6, 8-6, 9-7 and vice versa.



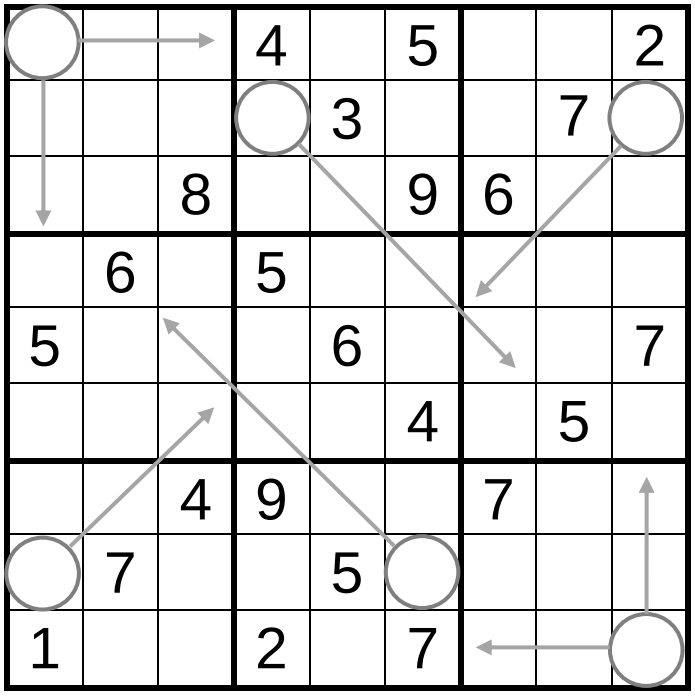
4. SUDOKU EXTRA REGIONS

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, bolded 3x3 box and two marked extra regions.

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

5. ARROW SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box. The circle at the top of each arrow contains a number that is the sum of the numbers that appear along the body of an arrow. Numbers are allowed to repeat along the path of an arrow provided they do not violate any other rules.



6. WORD SEARCH SUDOKU

Write a single letter (A, C, E, F, H, L, M, S, U) in each cell such that each letter appears exactly once in every row, column, and bolded 3x3 box. Find all given words (only words with capital letters) in the word list. Words may be found in any of eight directions. Competition puzzle will have different set of letters.

H							F	C
E	U		L				M	
			H		E			
		A				S	U	
				E				
	C	S				F		
			E		A			
	M				U		A	H
A	F							M

HUMMEL, MAUS, FUCHS, LUCHS, ELCH, SAU, LAUS

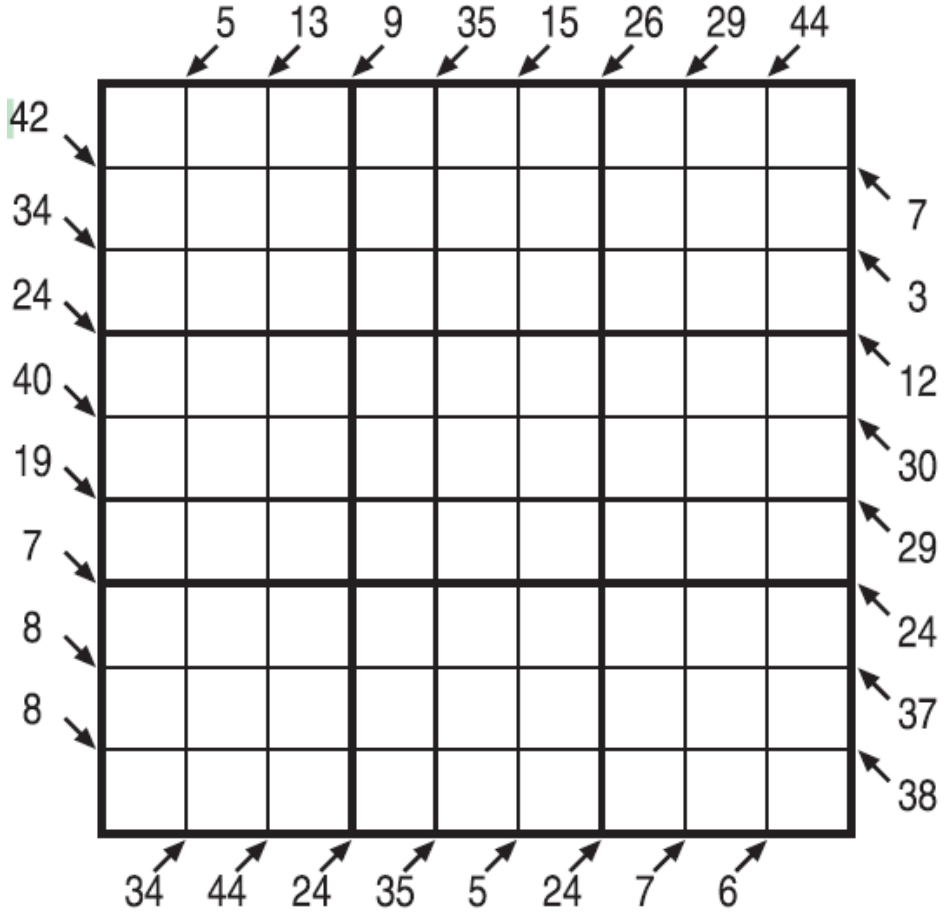
7. IRREGULAR SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded region.

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

8. LITTLE KILLER SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box. The numbers with arrows outside the grid indicate the sum of the numbers in the corresponding direction. Digits can repeat on any of the diagonals.



9. FRAMELESS SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box. The numbers on the outside indicate the sum of the first digits encountered in that row or column from that side. The amount of digits can differ from sum to sum and can be only one digit.

	21	21				21		21
12	6		5		2		3		7
21		7		8		3		6	
21	3		8		7		2		
		4		2		1			
12	5		1		8				
		8		7					
21	8		7						1
		5						2	
21	2						7		4

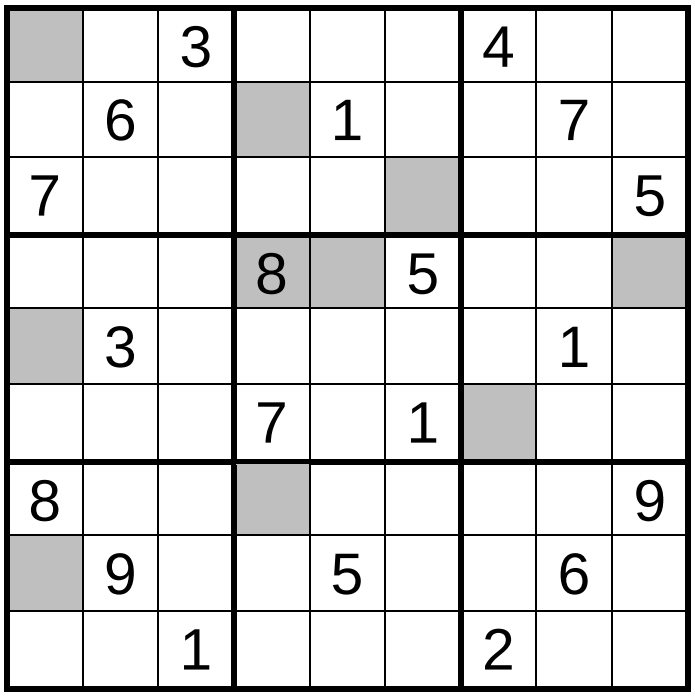
10. RENBAN GROUPS SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded 3x3 box. Marked extra regions contain consecutive digits.

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

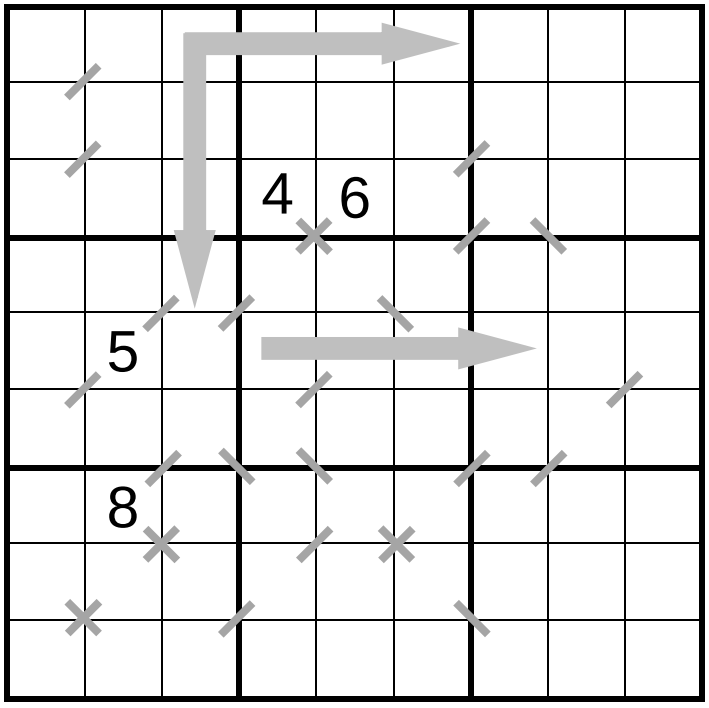
11. EVEN SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, bolded 3x3 box. Grey cells contain only even numbers.



12. DIAGONAL CONSECUTIVE SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, bolded 3x3 box. All diagonally adjacent cells having consecutive digits are marked by a line. If there is no line, those two diagonally adjacent cells cannot have consecutive digits. Additionally, place three of four (4 of 5 in competition puzzle) given numbers on given arrows from left to right, top to bottom.



1234

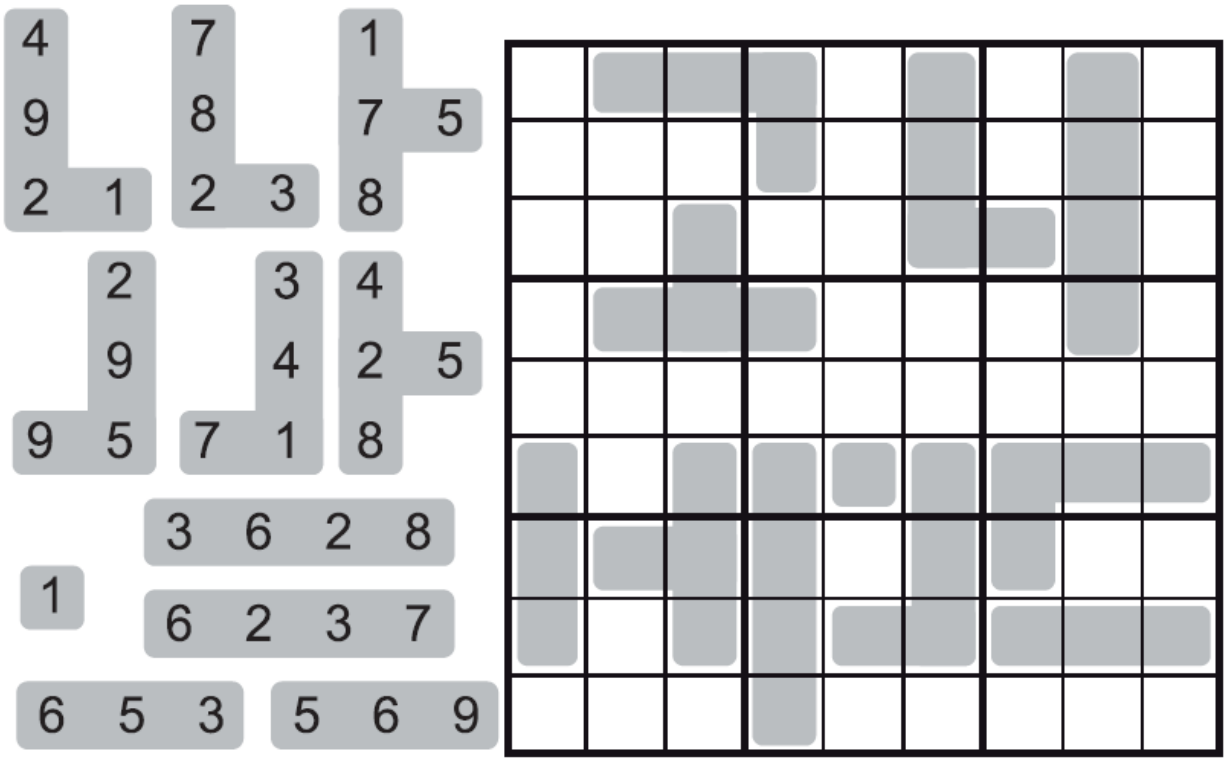
1236

1237

1246

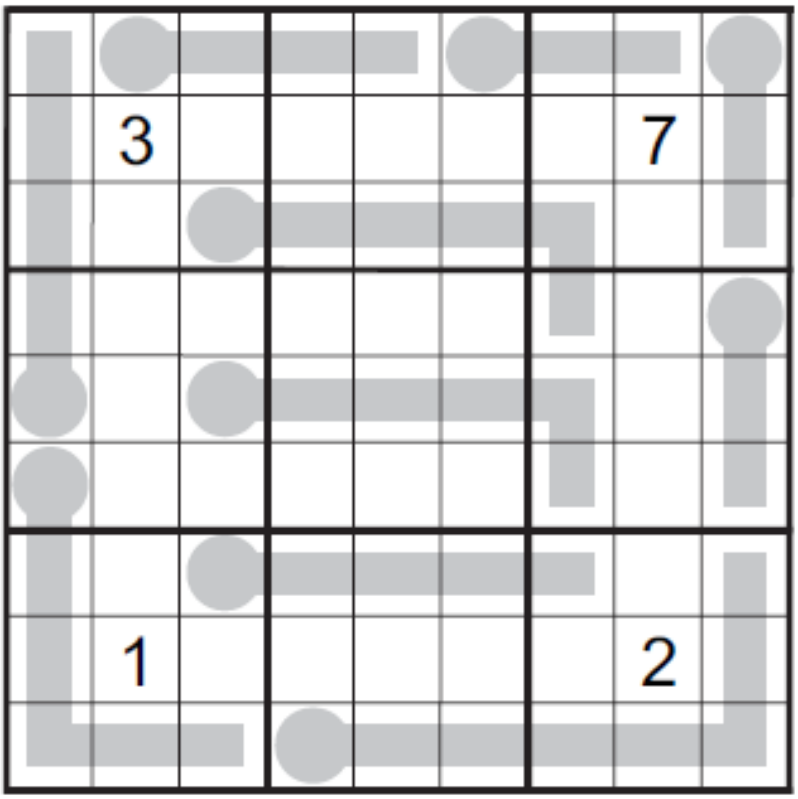
13. PLACEMENT (SHAPE) SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded region. Place given shapes in grid on marked places (rotation is allowed, reflection is not allowed). Shapes partially overlap in competition puzzle.



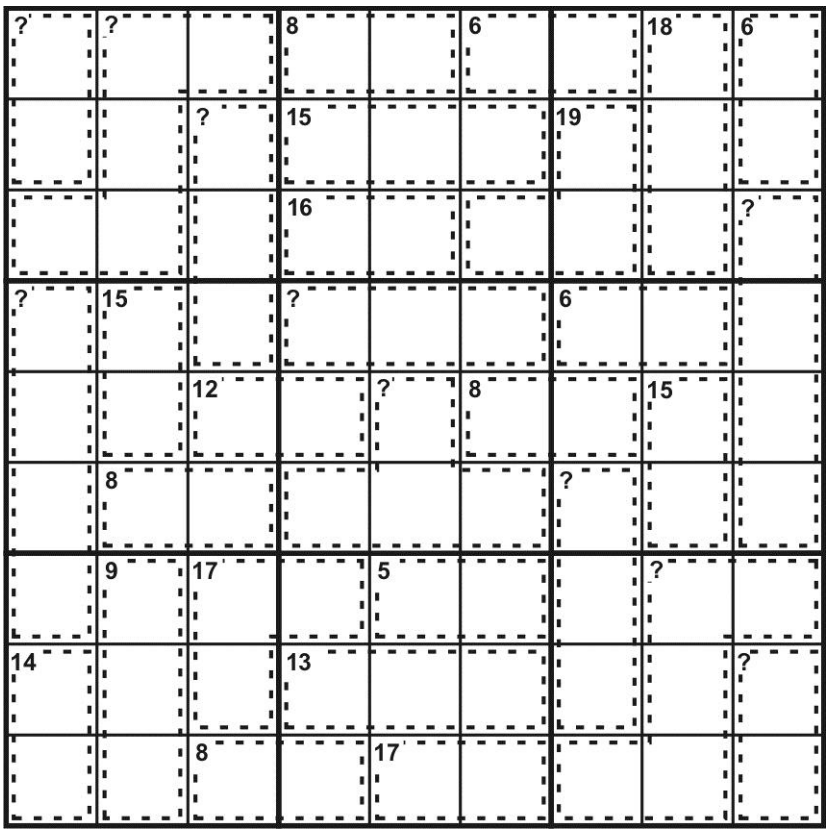
14. THERMO SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded region. The digits in each "thermometer" shaped region must be strictly increasing from the circular "bulb" to the other end(s).



15. KILLER SUDOKU

Write a single number from 1 to 9 in each cell such that each number appears exactly once in every row, column, and bolded region. The sum of digits in cells inside every cage must equal the number given for the cage at the upper left cell. Each digit in the cage must be unique. Question marks ? indicate sum of 10, 20 or 30 (sums for competition puzzle will be given in puzzle booklet)



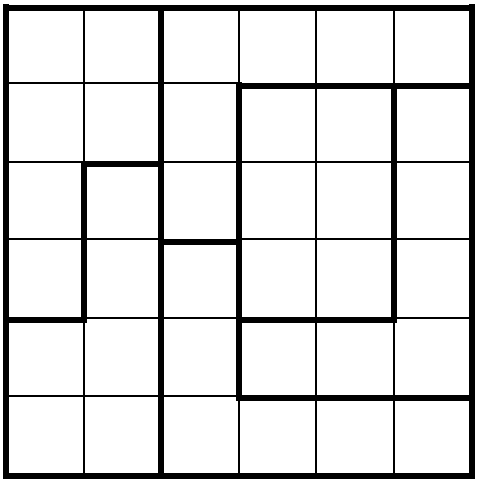
? = 10, 20, 30

16. MOVABLE DIGITS

Write a single number from 1 to 6 (1 to 9 in competition puzzle) in each cell such that each number appears exactly once in every row, column and bolded region. Some numbers are already placed into the grid. None of these numbers is at the right place. However, for any number placed into the grid, at least one of its (at most) four edge adjacent neighbour cells must contain same number in the solved puzzle as the cell itself has in original grid.

Note: Additional blank grid for solving will be provided in puzzle booklet.

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



Solutions

1

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

2

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

3

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

4

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

5

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

6

H	A	L	U	S	M	E	F	C
E	U	F	L	A	C	H	M	S
C	S	M	H	F	E	A	L	U
F	E	A	M	C	H	S	U	L
U	L	H	S	E	F	M	C	A
M	C	S	A	U	L	F	H	E
L	H	C	E	M	A	U	S	F
S	M	E	F	L	U	C	A	H
A	F	U	C	H	S	L	E	M

7

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

8

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

9

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

10

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

11

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

12

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

13

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

14

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

15

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

16

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