12th
WORLD
SUDOKU
CHAMPIONSHIP

Round 19 (WSC PlayOffs)
09th – 12th March

LMI Monthly Test March 2018

A selection of sudokus which almost made it to WSC 2017

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How to participate?

- Understand the rules of different Sudokus that will appear in this episode. This Instruction Booklet has rules for each Sudoku.
- Download the password protected Sudoku booklet (will be uploaded before the test starts). The Sudoku booklet contains the actual Sudokus to be solved. It is password protected, so you won't be able to open it.
- Any time on or after 9th March (but on or before 12th March), login at the submission page using your LMI userid and password.
- Please check the submission page for exact timing.
- Click on "Start". At this time, password for pdf will be shown and timer will start.
- You can print the pdf and solve on paper. **There is no online solving interface for this test.**
- Each Sudoku (except #12) will be marked with two arrows
  - Fill the answer form with digits along the marked arrow(s)
  - Click submit button

If you are participating at LMI for first time, you must check the F.A.Q. at http://logicmastersindia.com/t/?tid=381.

Points Table and Scoring

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.

This test uses instant grading where a solver can submit any individual Sudoku and receive confirmation that the solution is correct or not. Each incorrect submission reduces the sudoku's potential score. The first, second, third, and fourth incorrect submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively.

|	
Alphabet	6
Classic	4
Group Sum	15
Group Product	13
Trio Sum Frame	10
Classic	5
Symmetric Dots	6
Hamle	5
Instructionless	12
Killer	15
Touchy	8
Extra Region - Just That Cell	1

Bonus

If you submitted all Sudokus correctly, you can have bonus points 1 point per minute saved, computed up to seconds.

General Rules

To make the rules less repetitive, you will see following line "Apply standard Sudoku rules" in most Sudoku rules. This means "Place a digit from 1 to N, where N is the size of the grid, in each empty cell so that each digit appears exactly once in each row, column and outlined region." These outlined regions could be 3X3 boxes, or other shapes.

Each Sudoku will be marked with, at max, 2 lettered arrows. If you are solving on paper, you need to submit the digits in these arrows, in order, including the givens. For example, the answer key for the Sudoku at the right is 162897453, 517698432.
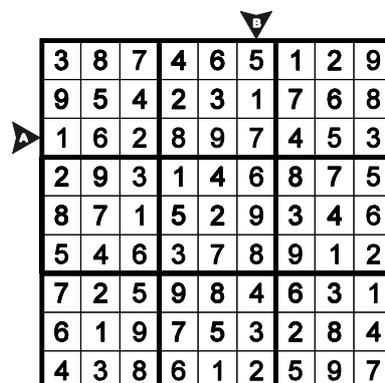
About the Sudoku Booklet

The password protected Sudoku booklet will have 9 pages. If you are planning to solve on paper, we advise you to have a printer accessible with enough paper. The Sudoku booklet will look similar to the next 9 pages in this instruction booklet. The font sizes, cell sizes, colors, borders, shading, margin will be identical. We recommend you to print few pages of this instruction booklet. You can avoid any last minute surprise during the test.

01 Alphabet Sudoku

6 points

Place a letter from {A, B, C, D, E, F, G, H, I} in each empty cell so that each letter appears exactly once in each row, column and 3X3 box.

G		E				I		A
	A			H			D	
C		H		D		B		F
E			A	F	B			
	C		I		D		B	
			H	C	E			I
A		D		I		G		B
	F			A			E	
H		B				A		C

02 Classic Sudoku

4 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.

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

Round 19 – WSC Playoffs

03 Group Sum Sudoku

15 points

Apply Classic Sudoku rules.

The number in the circle gives the sum of the digits in the four cells touching it.
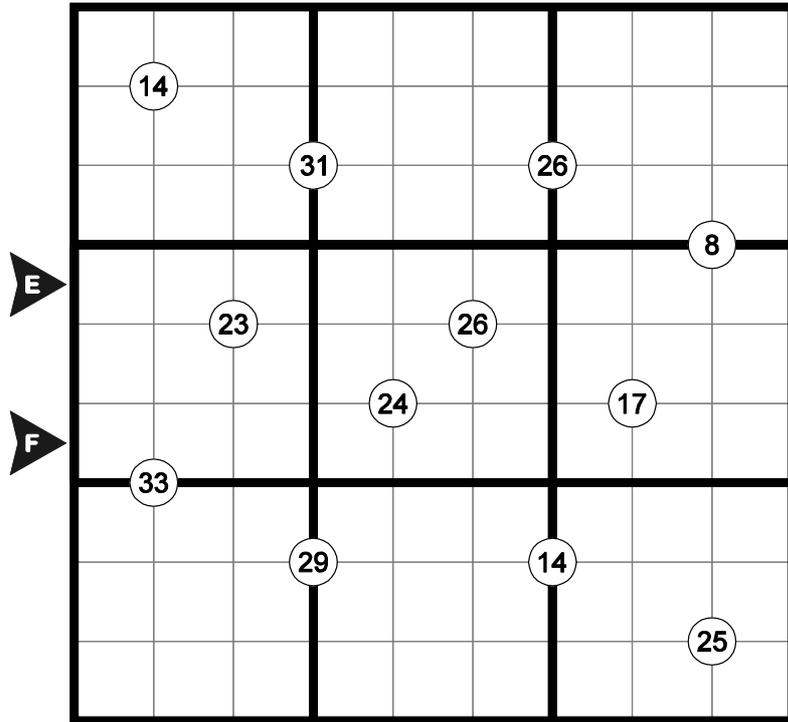
04 Group Product Sudoku

13 points

Apply Classic Sudoku rules.

The number in the circle gives the product of the digits in the four cells touching it.
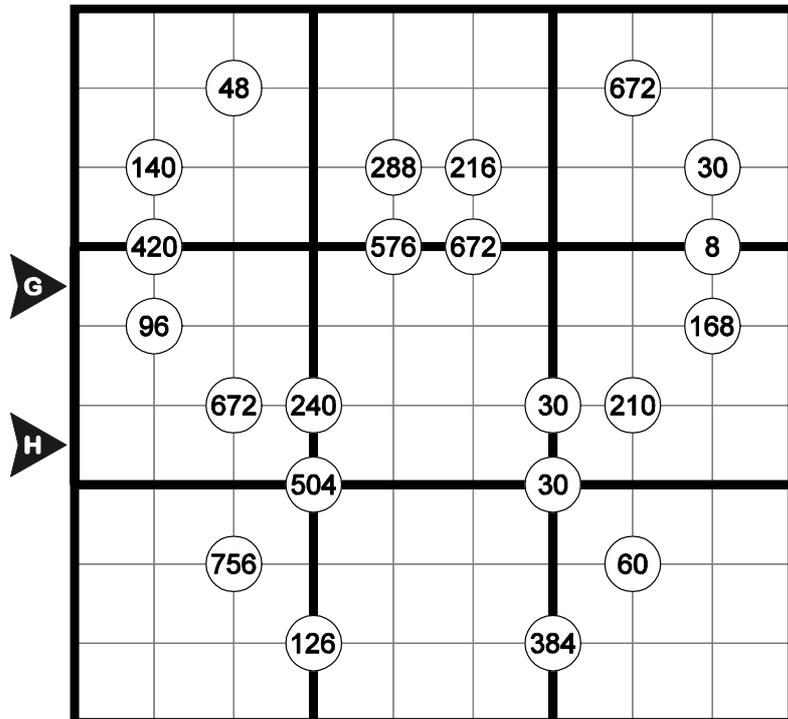
05 Trio Sum Frame Sudoku

10 points

Apply Classic Sudoku rules.

Numbers outside the grid indicate the sum of the first three numbers from that direction.

Shapes inside the grid follow Trio Sudoku rules. (Circle: 123, Square: 456, Diamond: 789).

06 Classic Sudoku

5 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.


Round 19 – WSC Playoffs

07 Symmetric Dots Sudoku

6 points

Apply Classic Sudoku rules.

Two dots are said to be "symmetric dots" if
(a) one dot can be reached from the other by 180 degrees rotation of the grid, and
(b) the sum of the two digits in cells adjacent to each dot is the same

All "symmetric dots" are marked.

08 Hamle Sudoku

5 points

Apply Classic Sudoku rules.

Each number in the top grid must be moved either up, down, left, or right the same number of cells as that number's value exactly once. Numbers must all land on unique spots, but are allowed to land on numbers given in the bottom grid.

Solve the resulting Sudoku applying Classic Sudoku rules.

The bottom grid is the one that must be filled to form a valid solution.

(Note: It is only required that at least one direction of movement exists for each number in the top grid.)

09 Instructionless Sudoku

12 points

An example will be given along with its solution. It is part of solving to determine what the variant instructions are and then solve the Sudoku. It is not required to describe or mark the instructions. When the necessary instructions are applied, the Sudoku will have a unique solution. There are no points for determining the instructions correctly.

The solved example grid will have some form of dressing like internal clues, external clues, shaded cells, regions, lines, cages, letters, dots, arrows, etc., in puzzle and/or solution, so it will be clear where to focus.

S O L V E D   E X A M P L E

Example puzzle grid:
	1	7				8	6	
	7		6		8			5
	5	7			2	6		
	2	6					1	4
	6		9		3			1
		8	2		5	9		

Example solution grid:
6	8	4	5	1	9	3	2	7
5	3	1	7	2	4	8	6	9
2	7	9	6	3	8	4	5	1
1	5	7	8	4	2	6	9	3
9	4	3	1	5	6	7	8	2
8	2	6	3	9	7	1	4	5
7	6	2	9	8	3	5	1	4
4	1	8	2	7	5	9	3	6
3	9	5	4	6	1	2	7	8

Puzzle grid:
				2				
		1		8				
	6		5		8			
Q		7		9		8		
R			7		2		6	
				2		1		4
				7			3	
						2		

Round 19 – WSC Playoffs

10 Killer Joker Sudoku

15 points

Apply Classic Sudoku rules.

The number in the top-left corner of a dotted cage is equal to the sum of this cage's digits. No digit can repeat within a cage.

Additionally, exactly one digit is a 'joker' across the grid, i.e., it can take up any value from 1-9.

11 Touchy Sudoku

8 points

Apply Classic Sudoku rules.

Each digit touches, vertically or horizontally, at least one consecutive digit.

12 Extra Region Sudoku – Just That Cell

1 point

Apply Classic Sudoku rules.

Each group of nine shaded cells must also contain the numbers 1 to 9.

One cell will be marked with a red circle. Identify the digit in that cell.

1 Alphabet Sudoku

G	D	E	F	B	C	I	H	A
B	A	F	G	H	I	C	D	E
C	I	H	E	D	A	B	G	F
E	H	I	A	F	B	D	C	G
F	C	A	I	G	D	E	B	H
D	B	G	H	C	E	F	A	I
A	E	D	C	I	H	G	F	B
I	F	C	B	A	G	H	E	D
H	G	B	D	E	F	A	I	C

2 Classic Sudoku

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

3 Group Sum Sudoku

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

4 Group Product Sudoku

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

5 Trio Sum Frame Sudoku

	13	14	18	14	17	14	9	16	20
13	3	1	9	4	2	5	6	8	7
13	2	7	4	3	6	8	1	5	9
19	8	6	5	7	9	1	2	3	4
20	5	8	7	6	1	2	9	4	3
15	9	4	2	8	5	3	7	6	1
10	1	3	6	9	4	7	8	2	5
12	6	5	1	2	7	4	3	9	8
12	7	2	3	5	8	9	4	1	6
21	4	9	8	1	3	6	5	7	2

6 Classic Sudoku

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

7 Symmetric Dots Sudoku

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

8 Hamle Sudoku

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

9 Instructionless Sudoku

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

Restricted Creasing Sudoku: Rule: A line of length 'n' contains digits from 1 to 'n', in order.

10 Killer Joker Sudoku

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

11 Touchy Sudoku

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

12 Extra Region Sudoku – Just That Cell

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

Answer Key = 9

Round 19 – WSC Playoffs