

QUINZE 2

31st July – 5th August 2020

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Important Links

Submission Page : <http://logicmastersindia.com/2020/075/>

Discussion Thread : <http://logicmastersindia.com/t/?tid=2751>

F. A. Q. : <http://logicmastersindia.com/t/?tid=381>

Registration, if required : <http://logicmastersindia.com/register.asp>

About this Test

This test has fifteen Sudokus, including two classic Sudokus. The duration of the test is 90 minutes.

How to participate?

- Understand the rules of different Sudokus that will appear in this test. This Instruction Booklet has rules and examples 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 31st July (but on or before 5th August), 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 either solve online using flash interface or print the pdf and solve on paper.
- Each Sudoku will be marked with two arrows
- If solving on paper
 - Fill the answer form with digits along the marked arrow(s)
 - Click submit button
- If solving online
 - After solving the Sudoku, click on "Submit" button below the grid
 - Each Sudoku grid has different submit buttons

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.

Sudoku	Points
Classic 1 (9x9)	35
Classic 2 (9x9)	40
Magic Squares (9x9)	30
Anti Knight (9x9)	45
Killer Pair (9x9)	50
Liar (9x9)	50
2 Frame (9x9)	60
Kropki (9x9)	60
Almost Diagonal (9x9)	65
Position (9x9)	70
Diagonal Skyscrapers (9x9)	70
Diamond (9x9)	80
Unique Sums (9x9)	95
Missing Arrow (9x9)	115
Thermo (9x9)	135
TOTAL	1000

Bonus

If you submitted all Sudokus correctly, you can have bonus points 10 points 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.

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

About the Sudoku Booklet

The password protected Sudoku booklet will have 8 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 pages in this instruction booklet. The font sizes, cell sizes, colors, borders, shading, margin will be similar. We recommend you to print few pages of this instruction booklet. You can avoid any last minute surprise during the test.

Example Credits

- “Sudoku for all” blog (Magic Squares Sudoku, Liar Sudoku) – akashdoulani.blogspot.com

01-02 Classic Sudoku

35 + 40 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.

B

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

A

03 Magic Squares Sudoku

30 points

Apply classic Sudoku rules.

Additionally, the shaded 3x3 areas are magic squares. The sum of the numbers in all rows, columns and two diagonals should be equal in a magic square.

Numbers cannot repeat in a magic square.

G H

					5	3		
							2	
								1
				5				
4								
	6							
		8	3					

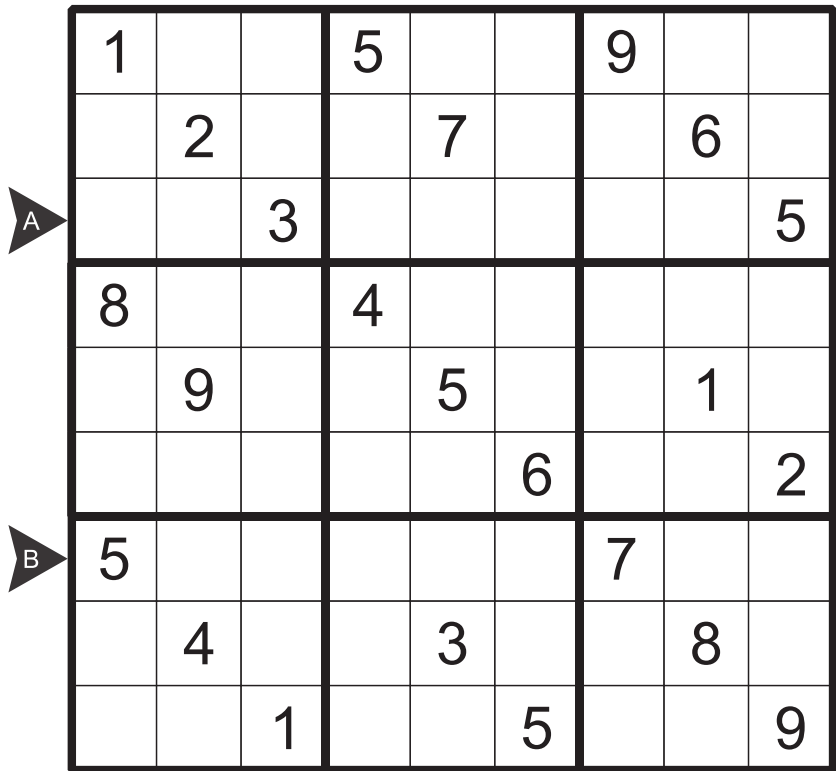
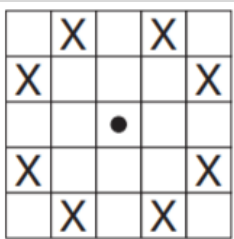
04 Anti Knight Sudoku

45 points

Apply classic Sudoku rules.

No cell that is a knight-step away can contain the same digit.

In chess, a knight moves two squares forward followed by one sideways.

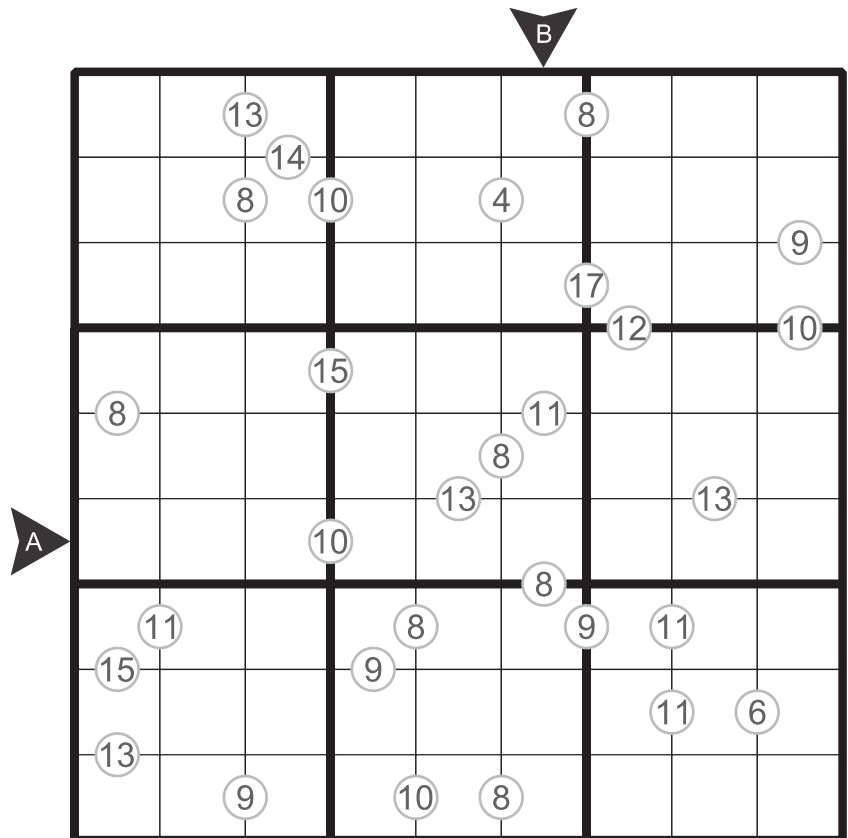


05 Killer Pair Sudoku

50 points

Apply classic Sudoku rules.

Additionally, numbers given on the border between two cells is the sum of the digits in those two cells.



06 Liar Sudoku

50 points

Apply classic Sudoku rules.

Additionally, every given clue is lying. The correct value is either one more or one less than the given clue.

Note: A 1 clue can only have value 2 and a 9 clue can only have value 8.

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

07 2 Frame Sudoku

60 points

Apply classic Sudoku rules.

Additionally, numbers outside the grid equal the sum of the digits appearing in the first two cells seen from that edge of the grid.

	5	14	8	13	9	8	17	9	7
10									11
9									5
13			1						9
9				8					8
6					4				11
16						5			11
6		1							9
11			6						13
10									13
	15	6	9	9	14	8	3	17	9

08 Kropki Sudoku

60 points

Apply classic Sudoku rules.

Additionally, if the difference between digits in orthogonally adjacent cells is 1, then they are separated by a white dot. If the digit in a cell is half of the digit in an orthogonally adjacent cell, then they are separated by a black dot. The dot between '1' and '2' can have any of these dots.

All possible dots are marked.

09 Almost Diagonal Sudoku

65 points

Apply classic Sudoku rules.

Additionally, the outside clues show the number of different digits in the corresponding direction.

10 Position Sudoku

70 points

Apply classic Sudoku rules.

Additionally, the outside clues indicate the position of the highest digit in the first 3 cells.

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

11 Diagonal Skyscrapers Sudoku

70 points

Apply classic Sudoku rules.

Additionally, each number represents the height of a building.

The clues outside the grid indicate the number of buildings visible from the corresponding direction. A higher building will hide any lower height (or same height) buildings behind it.

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

12 Diamond Sudoku

75 points

Apply classic Sudoku rules.

Additionally, all the four sides of the diamond contain the same set of digits. Digits can repeat in this set.

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

13 Unique Sums Sudoku

95 points

Apply classic Sudoku rules.

Additionally, all cage sums are unique (no two cages can have the same sum).

Digits cannot repeat in a cage.

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

14 Missing Arrow Sudoku

115 points

Apply classic Sudoku rules.

Additionally, the grey lines represent incomplete arrows. The digit on one end of each line is the sum of the other digits on the same line.

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

15 Thermo Sudoku

135 points

Apply classic Sudoku rules.

Additionally, there are some thermometer shapes in the grid. The numbers are in increasing order from the bulb to the flat end on each thermometer.

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

Classic Sudoku

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

Magic Squares Sudoku

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

Anti Knight Sudoku

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

Killer Pair Sudoku

4	5 ¹³	8	7	9	6 ⁸	2	1	3
9	2 ⁸	6 ¹⁰	4	3 ⁴	1	7	8	5
1	7	3	2	5	8 ¹⁷	9	6	4 ⁹
5	1	7 ¹⁵	8	4	9	3	2	6 ¹⁰
3	8	4	5	6 ⁸	2	1	9	7
2	6	9 ¹⁰	1	7	3	5	4	8
8 ¹¹	3	1	6 ⁸	2	5 ⁹	4 ¹¹	7	9
7	9	2	3	8	4	6 ¹¹	5 ⁶	1
6 ¹³	4 ⁹	5	9 ¹⁰	1 ⁸	7	8	3	2

Liar Sudoku

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

2 Frame Sudoku

	5	14	8	13	9	8	17	9	7	
10	2	8	1	4	7	3	9	5	6	11
A	9	3	6	7	9	2	5	8	4	5
13	4	9	5	1	6	8	3	7	2	9
B	9	6	3	2	5	8	9	4	1	8
6	1	5	8	7	3	4	6	2	9	11
16	9	7	4	2	1	6	5	3	8	11
6	5	1	9	8	4	2	7	6	3	9
11	7	4	6	3	9	1	2	8	5	13
10	8	2	3	6	5	7	1	9	4	13
	15	6	9	9	14	8	3	17	9	

Kropki Sudoku

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

Almost Diagonal Sudoku

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

Position Sudoku

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

Diagonal Skyscrapers Sudoku

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

Diamond Sudoku

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

Unique Sums Sudoku

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

Missing Arrow Sudoku

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

Thermo Sudoku

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