

Logic Masters India

September 2011 Sudoku Test

CRAZY ARROWS

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INSTRUCTION BOOKLET

Championship Page: <http://logicmastersindia.com/M201109S/>

Forum: <http://logicmastersindia.com/forum/forums/thread-view.asp?tid=378>

POINTS TABLE

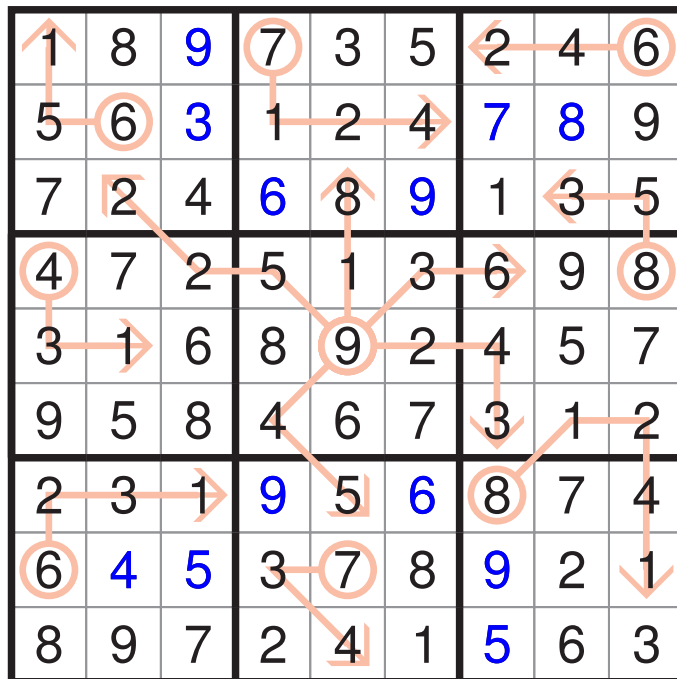
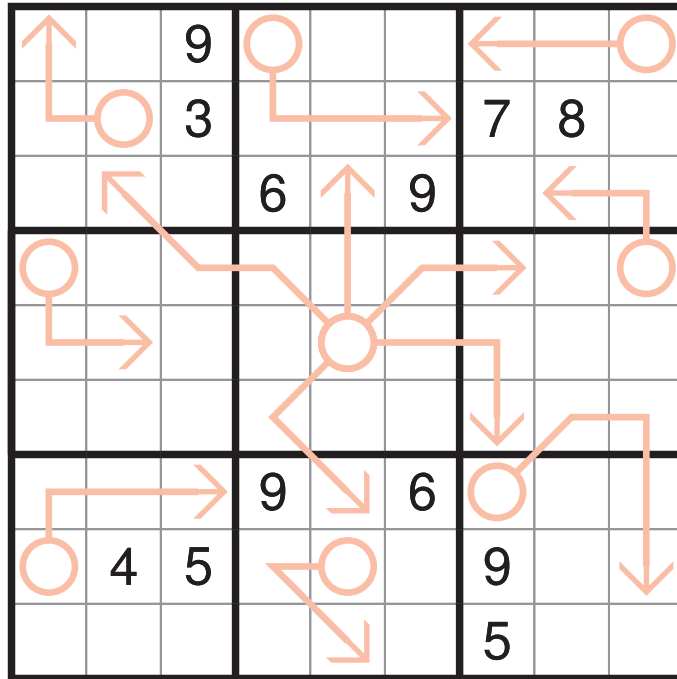
ARROW SUDOKU VARIANT	POINTS
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INSTRUCTIONS

1. There are **12 sudokus**. In all the sudokus, numbers 1 to 9 (0 to 9 in 0-9 Arrow Sudoku) occur exactly once in every row, column and 3x3 box.
2. **TIME BONUS** of 9 points per minute saved will be awarded only if ALL 12 sudokus are solved correctly within 110 minutes (after clicking on Claim Bonus).
3. **TIME BONUS** of 5 points per minute saved will be awarded if 11 sudokus are solved correctly AND 1 sudoku is submitted incorrectly with at least 14 out of 18 digits correct within 110 minutes (after clicking on Claim Bonus).
4. **Answer key** for all sudokus is one row (left-to-right) and one column (top-to-bottom).
5. **Online Solving** will NOT be enabled due to the nature of the test.

SUM ARROW SUDOKU

The number in a circle is the sum of numbers along its arrow. Numbers can repeat along an arrow. Two or more arrows from a circle must result in the same sum.



0-9 ARROW SUDOKU

Every circle contains two digits which forms a two-digit number (including '0' in ten's place).

This number is the sum of numbers along its arrow. Numbers can repeat along an arrow.

(NOTE: For Answer Key, you may enter the two digits of a circle in any order. For example, the answer key of Row 4 is 2903871645 OR 2930871645, both will be considered valid)

0			6			8	1	○
8			3	↗	○	↘	6	
○		9		4	8	↘		
↘		○		←			4	
↘	4		○	→			2	
	6		→				○	
	○		1	3	↖	4	↘	
	2	←	○	6				1
	1	6			5	○		2

0	7	2	6	5	9	8	1	○34
8	5	4	3	1	○07	2	6	9
○16	3	9	2	4	8	5	7	0
2	9	○03	8	7	1	6	4	5
5	4	8	○09	6	3	1	2	7
7	6	1	5	2	4	3	○09	8
9	○08	7	1	3	2	4	5	6
3	2	5	4	○09	6	7	8	1
4	1	6	7	8	5	○09	3	2

COUNT ARROW SUDOKU

The number in a circle indicates the number of different digits along its arrow.

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

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

DIFFERENCE ARROW SUDOKU

The number in a circle is the difference of numbers along its arrow. All arrows will contain only two cells.

○ →		○	2	4	7
		↓	5		8
	5	2	↘	○	
← ○		4	7	○	5
5		6	↗	9	8
7	1	○	3	↘	○
○ ↗			3	4	→
5	7	○	↓	○	↘
4	2	3			↘

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

INCOMPLETE ARROW SUDOKU

The number in a circle is the sum of the first 'n' digits along its arrow where 'n' is less than or equal to the length of the arrow.

4	○	7		○		2		
	9			↓		3	↓	6
3		1		2		↖	7	○
	○	5	6		2	9		
				→	1	←		
		3	5		4	8	○	
○	4	↓		5		6		3
5	↖	8		↖		9		
	3			○		5	○	2

4	○5	7	3	○8	6	1	2	9
8	9	2	1	↓4	7	3	↓5	6
3	6	1	9	2	5	↖4	7	○8
1	○8	5	6	3	2	9	4	7
6	7	4	→8	1	↖9	2	3	5
9	2	3	5	7	4	8	○6	1
○2	4	↓9	7	5	8	6	1	3
5	↖1	8	2	↖6	3	7	9	4
7	3	6	4	○9	1	5	○8	2

MISSING ARROW SUDOKU

The shape of the arrow is given, you need to identify its circle and tip such that the number in a circle is the sum of numbers along its arrow. Numbers can repeat along an arrow. **The circle has to be at one of the ends.** Each line represents EXACTLY one arrow.

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

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

PARTED ARROW SUDOKU

The number in a circle is the sum of numbers along ALL its arrows. Numbers can repeat along an arrow.

			↗	←	○	8	7	
		○	9			↘		↑
	↙	↓		7	↖	4		○
↑		↓	7		6	○	→	↓
	6	9		5	↘	7	1	
○	→		4		9	↗	○	
		7	↑	9	↙		↓	
←	○		○	→	8			
↙	9	2				←	○	→

6	2	4	↗	←	○	5	8	7	9			
5	7	○	8	9	6	4	↘	2	3	↑		
9	↙	3	1	8	7	↖	2	4	5	○	6	
↑	8	↓	3	7	1	6	○	9	↘	4	↓	5
4	6	9	2	5	↘	3	7	1	8			
○	7	→	1	5	4	8	9	↖	3	○	6	2
8	5	7	↖	3	9	↙	1	6	↘	2	4	
←	○	4	6	○	5	→	2	8	1	9	7	
↙	1	9	2	6	4	7	↖	5	○	8	→	3

PRODUCT ARROW SUDOKU

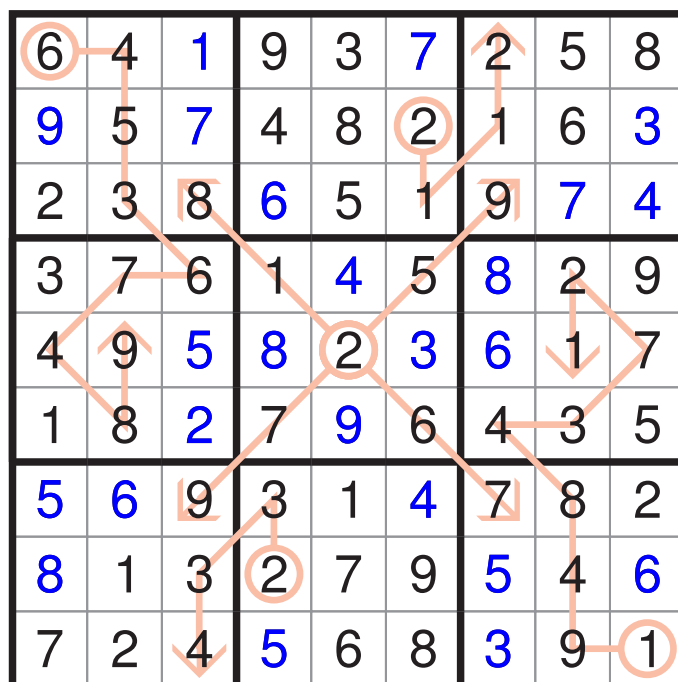
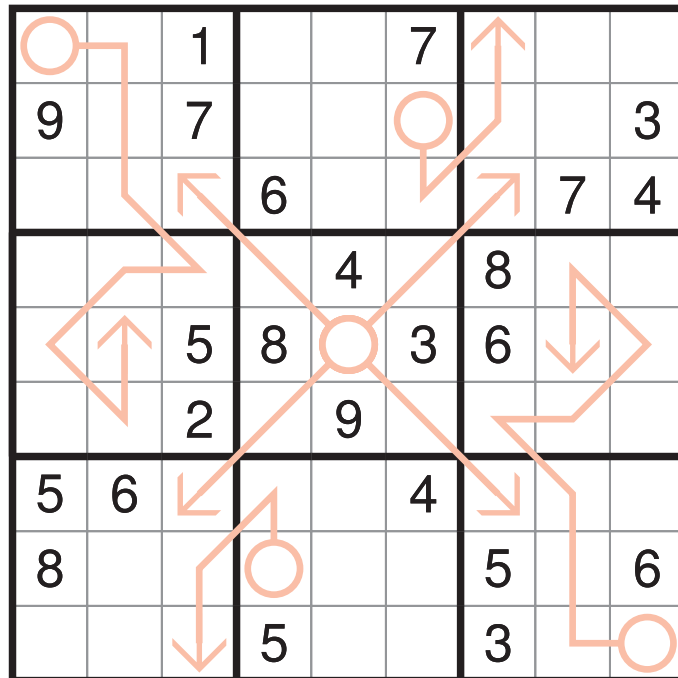
The number in a circle is the unit's digit of the product of numbers along its arrow.

○	5			○		○	2	9
8		2		↓		↘	5	6
	6		9	↓		↘		
○		5	↘		2			
				1	↗			○
			5			8		
		↑			8		1	
5	1					7	1	4
7	3	↗	○			↙	8	

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

SKYSCRAPER ARROW SUDOKU

The number in a circle indicates the number of skyscrapers seen along its arrow. Each number represents the height of the skyscraper in that cell. If there are two (or more) skyscrapers of the same height along an arrow, only the first one is seen.



SYMMETRIC ARROW SUDOKU

The number in a circle will be the sum of numbers along its arrow. You need to draw the arrows in the standard format passing through neighbouring cells. Arrows cannot overlap or intersect. **No part of an arrow can go outside the grid.** Numbers can repeat along an arrow. Every pair of 180-degree symmetric circles will have 180-degree symmetric arrows.

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

9	5	6	3	2	7	○4	8	↑1
1	8	7	6	4	9	2	3	5
2	3	←4	5	8	1	6	7	○9
6	7	8	○9	1	5	←3	2	4
4	9	3	2	7	6	5	1	8
5	→2	→1	8	3	○4	9	6	7
○8	4	2	7	5	3	→1	9	6
7	6	5	1	9	2	8	4	3
3	1	○9	4	6	8	7	5	2

WRONG ARROW SUDOKU

The number in a circle is one more OR one less than the sum of numbers along its arrow. Numbers can repeat along an arrow.

9	4	○		↗			5	3	
2	1			↘			○	7	4
			7	9	4				
			3	↗	9				
○	3	○		↗	6			2	
			4		7		←		
			9	7	1				○
7	9			↘		○		8	1
4	6					↘		9	7

9	4	○7	6	↗	2	8	5	3	
2	1	6	5	8	3	○9	7	4	
3	8	5	7	9	4	1	6	2	
1	7	8	3	↗	9	6	↘	5	
○5	3	○4		↗	6	8	7	2	9
6	2	9	4	5	7	←	3	1	8
8	5	2	9	7	1	4	3	○6	
7	9	3	↘	4	○6	5	8	1	
4	6	1	8	3	5	↘	9	7	

CREDITS

Some of the puzzle ideas were taken from:

VARIANT	IDEA TAKEN FROM
Count Arrow Sudoku	Deb Mohanty
Incomplete Arrow Sudoku	Deb Mohanty
Missing Arrow Sudoku	Deb Mohanty
Product Arrow Sudoku	WSC 2010, USA