

Hráčská asociace logických her a sudoku www.sudokualogika.cz

SUDOKU PRAGUE OPEN 2017

Prague, 11 June 2017

INSTRUCTION BOOKLET

10:30 - 10:50	ROUND 1 – CLASSICS	20 MINUTES	200 POINTS
11:00 - 11:50	ROUND 2 – IRREGULAR	50 MINUTES	500 POINTS
12:00 - 12:40	ROUND 3 – CAGES	40 MINUTES	420 POINTS
12:50 - 13:50	ROUND 4 – MISCELLANOUS	60 MINUTES	750 POINTS
14:00 – 14:30	ROUND 5 – X-KILLER	30 MINUTES	288 POINTS

TIME BONUS: 12 POINTS/MIN PARTIAL BONUS: 9 POINTS/MIN





Competition puzzles author: Jan Zvěřina Instruction booklet puzzles: Jan Zvěřina, Jakub Hrazdira, Rajesh Kumar, Prasanna Seshadri, WPF Sudoku GP IB, WSC 2015 IB, WSC 2016 IB **ROUND 1 – CLASSICS**

20 minutes

200 points

1) Classic Sudoku	19 points
2) Classic Sudoku	19 points
3) Classic Sudoku	20 points
4) Classic Sudoku	23 points
5) Classic sudoku	24 points
6) Classic sudoku	25 points
7) Classic sudoku	30 points
8) Classic sudoku	40 points

1-8) CLASSIC SUDOKU

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box.

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

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

ROUND 2 – IRREGULAR

50 minutes

500 points

1) Irregular Sudoku	36 points
2) Irregular Sudoku	41 points
3) Irregular Twins Sudoku	116 points
4) Irregular Antiknight	78 points
5) Irregular Untouch	48 points
6) Irregular Clones	34 points
7) Blackout Toroidal Sudoku	71 points
8) Irregular ISO Sudoku	76 points

1-2) IRREGULAR SUDOKU (36 + 41 points)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and outlined region.

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

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

3) IRREGULAR TWINS SUDOKU (116 points)

Place a digit from 1 to 9 (1 to 6 in the instruction booklet) into each of the empty squares so that each digit appears exactly once in each row, column and outlined region. Both grids have the same givens and the same solution. They only have different regions. To award points you only need to fill one grid correctly.

 1	2			
3	4		5 -	
		2	3	
		4	5	



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

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

4) IRREGULAR ANTIKNIGHT SUDOKU (78 points)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Numbers placed in cells related by a chess Knight's move (2+1 cells in any orthogonal direction) must be different.

		3				5		
	5		9				8	
5				4		9		3
	7				5			
		9				7	10	
			4				7	
2		4		9				5
[2				9		5	
		1				2		

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

5) IRREGULAR UNTOUCH SUDOKU (48 points)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Moreover, same digits can not touch diagonally.

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

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

6) IRREGULAR CLONES (34 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and outlined region. In each of the shaded regions, the numbers placed in the cells at the same positions within the regions must be the same.

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

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

7) BLACKOUT TOROIDAL SUDOKU (71 POINTS)

Place a digit from 1 to 9 (1 to 6 in the instruction booklet) into each of the empty white squares so that each digit appears exactly once in each row, column and outlined region. Some of the outlined regions will wrap between the top and bottom edges, and/or the left and right edges of the grid.

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

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

8) IRREGULAR ISO SUDOKU (76 POINTS)

Place a digit from 1 to 9 (1 to 6 in the instruction booklet) into each of the empty white squares so that no digit repeats in any of the three directions.



ROUND 3 – CAGES

40 MINUTES

420 POINTS

53 points

- 1) Classic + Irregular 51 points
- 2) Empty Killer
- 3) Extra Region Sudoku 70 points
- 4) Capsules Sudoku 50 points
- 5) Renban Sudoku 67 points
- 6) Multiplication Sudoku 33 points
- 7) All Even/All Odd 66 points
- 8) Shapes 30 points

1) CLASSIC + IRREGULAR (51 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Each cage contains each of numbers 1-9 exactly once.



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

2) EMPTY KILLER (53 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Numbers in cages may not repeat.

	8		2		6		1	
4		9				7		3
	7			1			2	
5	r			/	2	 		4
		/		5				
8			3					2
	1			[8	
7		2			r	3		1
	4		7		1		9	

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

3) EXTRA REGION SUDOKU (70 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Each cage contains each of numbers 1-9 exactly once.



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

4) CAPSULES SUDOKU (50 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Each cage contains exactly one odd and one even digit.

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

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

5) RENBAN SUDOKU (67 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Each cage contains a set of consecutive numbers, in any order.

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

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

6) MULTIPLICATION (33 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. There are some 2x2 cages in the grid. The two-digit number in the second line of a cage must be product of two one-digit numbers in the first line of the corresponding area.

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

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

7) ALL EVEN/ALL ODD (66 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Numbers in each cage have all the same parity. (Different cages can have different parity.)



		_				(i) (i)		(f
9	4	2	3	1	6	7	8	5
8	1	3	2	5	7	9	4	6
6	7	5	8	9	4	2	1	3
7	3	4	9	2	8	6	5	1
1	5	8	6	7	3	4	2	9
2	6	9	5	4	1	8	3	7
3	8	1	7	6	2	5	9	4
4	9	6	1	8	5	3	7	2
5	2	7	4	3	9	1	6	8

8) SHAPES (30 POINTS)

Place a digit from 1 to 9 (1 to 6 in the instruction booklet) into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Cages with identical size and shape (reflection and rotation is allowed) must contain the same set of digits. Digits in cages may repeat.

3				1
	6		 	
			3	
2			 	4

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

ROUND 4 – MISCELLANOUS

60 MINUTES

1) Just One Cell Sudoku	28 points
2) Just One Cell Sudoku	28 points
3) XV Sudoku	35 points
4) XV Sudoku	64 points
5) Extra Region Sudoku	51 points
6) Extra Region Sudoku	51 points
7) Hashtag Sudoku	74 points
8) Palindromes Sudoku	34 points
9) Odd Queens Sudoku	69 points
10) No Point to 9 Sudoku	72 points
11) 2 Even 2 Odd Sudoku	71 points
12) Box Clone Sudoku	31 points
13) Antidiagonal Sudoku	49 points
14) Consecutive Sudoku	25 points
15) X-Sums Sudoku	68 points

1+2) JUST ONE CELL SUDOKU (28 + 28 POINTS)

The grid has multiple solutions. However, one digit can be placed with absolute certainty, i.e. it will be the same for all solutions. Find that digit.





3+4) XV SUDOKU (35 + 64 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. If a pair of orthogonally adjacent cells has X between them, the sum of the numbers placed in these cells must be exactly 10. If a pair of orthogonally adjacent cells has V between them, the sum of the numbers placed in these cells must be exactly 5. All possible signs have been given.



1 \	/ 4	3	2	9	5	7	8	6
8	5	^	6>	< 4	3	2	1>	× 9
9	2	6	7	1	8	5	Ĵ	4
4	9	5	1	3	6	8	7	2
7	6	1	8	5	2	4	9	3
2	/ 3	8	4	7	9	6	5	1
5	1	2	/ 3	8	4	9	6	7
6	7	9	5	2	1	3	4	8
3	8	4	9	6	7	1	2	5

5+6) EXTRAREGION SUDOKU (51 + 51 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Each shaded region contains each of numbers 1-9 exactly once.

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

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

7) HASHTAG (74 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Numbers placed along marked lines must not repeat.



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

8) PALINDROMES SUDOKU (34 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Additionally, numbers placed along marked lines must form a palindromic sequence, e.g. 12344321...



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

9) ODD QUEENS SUDOKU (69 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Two odd digits of the same value can not be placed on the same diagonal.

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

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

10) NO POINT TO 9 SUDOKU (72 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. No digit N can be at a distance N of any digit 9, as well orthogonally as diagonally.

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

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

11) 2 EVEN 2 ODD SUDOKU (71 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Additionally there can never be 3 consecutive cells in a straight line (row or column) having all odd or all even digits.

5			1
	2		
		4	
	6		
		1	
1			3

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

12) BOX CLONE SUDOKU (31 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. In each of the shaded regions, the numbers placed in the cells at the same positions within the regions must be the same.

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

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

13) ANTIDIAGONAL SUDOKU (49 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Each of the marked diagonals contains exactly three different digits.

/	\mathbb{N}		4		8		/	\square
$\overline{)}$	\square	\mathbb{N}	3	1	2		\square	\square
	\smallsetminus	\mathbb{N}	$\overline{\ }$	7	\square		\square	
9		$\overline{\ }$	/	X	\square		1	7
8	3	2	imes	\mathbb{X}	X	4	9	1
4		/		\mathbb{X}	\backslash	\backslash		6
	\square	\square	\square	2	\setminus	\backslash	\searrow	
	\square	\square	9	3	5	\setminus	\square	\square
	\square			6				

5	X	З	4	9	8	1	ø	Ź
6	9	¥	3	1	2	7	5	8
2	8	X	5	7	ø	X	A	9
9	5	Ø	×	Ж	X	8	2	7
8	3	2	X	X	${ \times }$	4	9	1
4	1	7	2	X	9	5	3	6
1	6	5	8	2	æ	9	X	3
7	2	8	9	3	5	6	X	A
Ż	Å	9	7	6	1	2	8	5

14) CONSECUTIVE SUDOKU (25 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. Some bars are in the grid; any two adjacent digits separated by a bar must be consecutive (ie differ by 1). All adjacent digits not separated by a bar cannot be consecutive.



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

15) X-SUMS SUDOKU (68 POINTS)

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each row, column and 3x3 box. The clues outside the grid indicate the sum of the first X numbers placed in the corresponding direction, where X is equal to the first number placed in that direction.



	1	9	12	26	39	41	21	45	19	_
1	1	2	3	6	7	8	5	9	4	26
42	8	7	4	1	9	5	2	6	3	11
29	6	9	5	2	4	3	1	8	7	30
37	7	6	1	8	2	9	4	3	5	23
20	5	3	2	4	6	7	9	1	8	40
45	9	4	8	5	3	1	6	7	2	9
17	4	1	9	3	8	2	7	5	6	31
10	2	8	7	9	5	6	3	4	1	1
14	3	5	6	7	1	4	8	2	9	45
	9	21	33	38	1	13	40	6	45	

30 MINUTES

Scoring: 8 points for each 3x3 box

Rules: There will be four classic Sudokus*. Each of them will have some clues, but not enough to solve the Sudoku. Some cells will be marked with letters. Same letter may appear on 2, 3, or 4 different grids. Digits marked with the same letter must be different and sum up to the provided total. Although every separate grid may have many solutions, there's only one solution where all grids are solved and sum up to the clues. Only solved grids that are a part of the overall solution will be scored, each one XX points. The example from the WSC IB is pasted in the next page, for those who have not seen it earlier.

*Rules of Classic Sudoku: Place a number from 1-9 in each empty cell in the grid such that each row, column and marked 3×3 box contains each number exactly once.



Example from WSC Instructions Booklet using 6X6 Sudokus

2		L			
	G		3		
н	1				D
		В		5	
		4	к	F	
				E	6

3		L			
	G		5		
Н	4				С
		A		6	
		1	к	F	
				E	2

4		L			
	G		2		
н	3				С
		A		1	
		6	к	F	
				E	5



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

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

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

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