11th 25th World Sudoku Championship

Senec - Slovak Republic / 16. 10. - 23. 10. 2016

World Sudoku Championship

INSTRUCTION BOOKLET

Monday, 17th October

Round 1 – DEBUTS	40 minutes	9:00	–	9:40	500 points
Round 2 – CLASSICS	30 minutes	9:50	–	10:20	400 points
Round 3 – ASSORTED	70 minutes	10:40	–	11:50	800 points
Round 4 – TREDOKU	25 minutes	12:05	–	12:30	240 points
Round 5 – ALIENS	35 minutes	14:10	–	14:45	400 points
Round 6 – BASICS	35 minutes	15:05	–	15:40	350 points
Round 7 – SPOILERS	30 minutes	15:55	–	16:25	350 points
Round 8 – Team – UROBOROS	35 minutes	17:15	–	17:50	1800 points
Round 9 – Team – SUDOKU PIECES	20 minutes	18:00	–	18:20	800 points

Tuesday, 18th October

Round 10 – GUESS NO MORE	30 minutes	9:00	–	9:30	300 points
Round 11 – SORTED	90 minutes	9:45	–	11:15	1200 points
Round 12 – GAPPY CLASSICS	30 minutes	11:30	–	12:00	250 points
Round 13 – Team – OLD MAID	45 minutes	13:45	–	14:30	2500 points
Round 14 – Team – DOUBLE CROSS	25 minutes	14:45	–	15:10	1020 points
PLAY-OFF		16:00	–	18:30	
TEAM PLAY-OFF		20:00	–	21:30	

Organized by:

SZHK
slovenský zväz hádankárov a krížovkárov

World Puzzle Federation

Competition Rules

Scoring and Bonuses

Points will be awarded only for fully and correctly solved puzzles. In general, there is no partial credit unless it is stated otherwise in the round's description.

Individual Rounds

A bonus of 10 points for each full remaining minute will be awarded to any competitor who correctly solves each puzzle in a round. At the judge's discretion, 0.75 x bonus (rounded to a whole number) will be awarded in the case of a single minor mistake in no more than 1 puzzle. For the avoidance of doubt, a minor mistake is considered at most two incorrectly filled cells in at most one of the puzzles.

Team Rounds

A bonus of 40 points for each full remaining minute will be awarded to any team who correctly solves all the puzzles in a round. If there are any mistakes, then no bonus will be awarded.

Competition Hall Rules

1. Each competitor has to sit at his/her pre-allocated desk in individual rounds. Teams have to work at their pre-allocated desks/areas for team rounds.
2. Prior to the start of each round, competitors must ensure they are at their desks ready for the start of the round. Late arrivals may not be permitted to enter the competition hall to take part in a round (at the discretion of the organizers).
3. Prior to the start of each round, competitors have to clearly write their name, team and reference number on the front of their competition booklet into the allocated space. If this information is not complete, then the organizers reserve the right not to award any points to that competitor for that round. Competitors must not open their booklets before the official start of the round.
4. When the signal for the start of the round has been given, competitors may open their booklets and begin solving the puzzles.
5. During each individual round, competitors have to keep silent, unless declaring completion of a round.
6. During team rounds, team members may talk to each other, but should do this with respect to other teams.
7. To declare a round complete, a competitor must close his/her booklet, clearly state "finished" and raise his/her arm with the booklet. The competitor's arm must be raised until the booklet is collected. The same rules apply for the team competition.
8. Competitors or teams who complete a round with more than five minutes in advance, are allowed to leave the competition hall quietly.
9. Competitors or teams who complete a round with five minutes or less left are not allowed to leave their desks or tables in order to not to cause unnecessary disruption to fellow competitors.
10. When a competitor leaves the competition hall for any reason, he/she will be not allowed to continue in that round.
11. When the signal to finish round is given, competitors have to stop solving immediately, close their booklets, put their pens/pencils down and their hands up with their booklets for collecting.
12. At the end of a round, competitors have to remain seated until all booklets have been collected. The signal to get up and leave will be given by the supervisor.

13. Mobile phones and electronic devices are not permitted to use in the competition hall. The devices have to be turned off and must not be placed on the competitor's desk.
14. Only team captains and official observers equipped with a name tag are allowed to enter the competition hall while either individual or team rounds are taking place. Other non-competing participants may enter the competition hall at the discretion of the organizers.
15. Competitors may not use cameras or other recording devices during rounds. Only official observers may do so, at the discretion of the organizers. They have to respect the competitors and not use flash photography or cameras with excessive sounds.
16. When a competitor believes that there is a problem with a puzzle, they must clearly state that puzzle is wrong by writing "Wrong puzzle" next to it. The competitor must not notify the organizers during the round. This will be investigated upon completion of the round.
17. Puzzles can be completed in any order within a round. The points' value of a puzzle is an indication of its expected difficulty, although individual solving experience may differ. The difficulty of an example puzzle does not necessarily reflect the difficulty of the corresponding competition puzzle.
18. The boxed area above each puzzle is reserved for makers' notes – competitors must not write in this area.

Permitted Items

19. Permitted items which can be used in the competition hall (unless stated otherwise) are: pens, pencils, pencil sharpeners, erasers, rulers, blank papers and instruction booklets annotated with notes regarding puzzle instructions and preparation notes.
20. Drinks and snacks are permitted as long as they do not disturb other competitors with a strong smell or rustling packet.
21. It is strictly forbidden to use electronic devices such as music players and headphones or any type of calculator. Use of such equipment may lead to the disqualification of the competitor.
22. Any other items brought into the hall must be kept in a bag on the floor and placed under the competitor's desk, so as not to block the aisles.

Marking and Queries

23. When a round has been evaluated, fully marked booklets are returned to a team member equipped with a country tag at a given location in a given time. Country tags will be distributed to each captain prior the start of the championships.
24. In case of any query after a booklet has been evaluated and returned to a competitor, the query must be raised through a team member with country tag to the organizers in the specified time. The schedule for the queries will be published before the competition. The booklet should be left with the organizers for investigation.
25. Puzzles may be photographed during the marking phase in order to prevent subsequent interventions.
26. Team captains are responsible for ensuring that any information given to them related to the competition is effectively relayed to their team.

Breach of Rules

27. Any breach of these rules may lead to a competitor or team being disqualified from the round or competition.
28. The decision of the tournament director (Zuzana Hromcová) is final.

Final Remarks

29. In case of a major mistake in one of the rounds, organisers reserve the right to cancel the round, either by removing it from the time schedule, or by not rewarding any points for it to any of the competitors.
30. The official puzzle booklets will contain 1-2 puzzles per page in the individual rounds. The rules of the puzzle and the corresponding points are always written next to it.
31. The official puzzle booklets will not always contain puzzle examples. Therefore, we recommend to bring the Instruction Booklet, which contains an example of every puzzle which will be part of the championship.
32. In the team rounds, the official puzzle booklets will not contain the rules of puzzles, only the names. It is advised to bring at least one Instruction Booklet for a team for these rounds.
33. In any case of inconsistency between the Instruction Booklet and the official puzzle booklets, e.g. rules or points, the information in the Instruction Booklet will be considered valid.
34. In the competition hall, a timer counting down to the end of the round will be visible for all the competitors.

Credits

35. All the sample puzzles in this Instruction Booklet were made by the following Slovak authors: Bieliková Michaela, Demiger Matúš, Hromcová Zuzana, Lehotská Blanka, Prinerová Martina. They cannot be commercially used.
36. We would like to thank UKPA (United Kingdom Puzzle Association), the organizers of WSC & WPC 2014, who kindly let us use parts of the Competition Rules from the Instruction Booklet published for the aforementioned event.

Finals and play-offs

Overview

The top 10 competitors from the individual competition will qualify for the main play-off (finals). In case of any equality between the points of the top competitors, the additional criteria are the following (in the given order):

- sum of points without time bonuses
- number of points in the longest round of the championship (Round 11)
- tie-breaking puzzle

The top 5 competitors from Under 18 and the top 5 competitors from Over 50 category will qualify for special play-offs, which will take place between the 3 rounds of the finals. The format of these play-offs will have different format as the finals, as described below. The additional criteria in case of the equality of points of the top 5 contestants in the age category are the same as for the main category.

Finals

Finals will be divided into three rounds.

The first round will feature competitors who finished in positions 7-10, with staggered starts determined by points' differences, as defined below.

The winner of the first round, 'A', will progress into the second round along with competitors who finished in positions 4-6. 'A' will have a staggered start as determined by the 7th place competitor.

The winner of the second round, 'B', will progress into the third round along with competitors who finished in positions 1-3. 'B' will have a staggered start as determined by the 4th place competitor. This round will determine the podium places for the 11th World Sudoku Championship.

The time limit for each round will be 25 minutes.

In each round of the finals, 4 puzzles will be solved. These puzzles will be chosen by play-off competitors from the set of puzzles in the corresponding section of the Instruction Booklet.

For each round of finals, 8 different puzzles are prepared. The competitor on the best position in this round will choose one puzzle, which will be solved first in this round of the finals, and one puzzle, which will not be solved at all. The competitor on the second best position will choose from the remaining 6 puzzles, one puzzle, which will be solved second, and one, which will not be solved at all. The competitor on the third best position will choose from the remaining 4 puzzles, one puzzle, which will be solved third, and one, which will not be solved at all. The last competitor will choose from the remaining 2 puzzles, one puzzle, which will be solved last in this round of the finals.

The selection of puzzles for the finals will take place before the corresponding play-off round, when all four competitors from this round are present.

Under 18 play-off

Under 18 play-off will take place between first and second round of the finals. Competitors will solve 3 puzzles in the order which is defined in the corresponding section of the Instruction

Booklet. The time limit for this round will be 25 minutes. This round will determine the first five places in Under 18 category for the 11th World Sudoku Championship.

Over 50 play-off

Over 50 play-off will take place between second and third round of the finals. Competitors will solve 3 puzzles in the order which is defined in the corresponding section of the Instruction Booklet. The time limit for this round will be 25 minutes. This round will determine the first five places in Over 50 category for the 11th World Sudoku Championship.

Staggered starts

In each round of all play-offs, the competitor on the best position in this round will start solving at 25:00. The competitor on the worst position in this round will start solving at 20:00. Starting times of other competitors will be calculated according to their points, proportionally.

Solving and Submission

When a play-off competitor completes a puzzle, he/she must raise his/her hand to indicate to a judge to enter the submission period.

The entire puzzle will then be checked over the next minute. After one minute, if the puzzle is correct, the judge will allow the competitor to begin the next puzzle. If the puzzle is incorrect, the judge will return the incorrect puzzle to the competitor. The competitor can resubmit a returned puzzle at any time, and will again enter the submission period.

Each round of the play-off stops either with the end of the time limit, or when 3 play-off competitors solve correctly all puzzles in the round, whichever is earlier.

Team play-off

The top 4 teams after the Preliminary Rounds will be qualified to the Team Play-off. In case of a tie, the additional criteria are the following (in the given order)

- sum of points in the team rounds
- sum of points without time bonuses (either team, or individual)
- tie-breaking puzzle

The format of the Team Play-off will be the Weakest link, i.e. the members of the team will start solving individually and after they submit their puzzles, they will be allowed to join the team table where a team puzzle will be solved.

The time limit for the whole round is 40 minutes. The team on the best position after the Preliminary Rounds will start solving at 40:00. The team on the worst position after the Preliminary Rounds will start solving at 35:00. Staggered starts of other teams in the team play-off will be calculated according to the team points.

In the first part, 8 different puzzles will be solved individually. These puzzles are divided into 4 pairs and it is up to the team to decide which solver will solve which pair of puzzles. The list of the puzzles can be found in the corresponding section of the Instruction Booklet.

After a competitor submits his/her individual puzzles, he/she will get a part of the team puzzle and be allowed to join the corresponding team table, where a team puzzle will be solved. The individual puzzles must be solved in the predefined order. The same rules are applied after the submission as in the Individual Play-offs. Team members will be not allowed to continue to their team table unless both puzzles have been solved correctly.

The team puzzle - Sudoku Samurai - will consist of 5 interconnected grids. The middle grid will be prepared on the table, while 4 corner puzzles will be distributed to the members of the team after they submit their individual puzzles (each solver will get one grid). The positions of the corner puzzles will not be marked anywhere - it is up to the team to decide how to interconnect the grids properly. The layout and puzzle types can be found in the corresponding section of the Instruction Booklet.

After a team submits the team puzzle, the same rules will be applied as for the Individual Play-offs.

This play-off will determine the podium places in the team competition for the 11th World Sudoku Championship, with the criteria being in the following order:

- number of correctly solved puzzles in the Team Play-off
- sooner finish in the Team Play-off
- sum of points in the Preliminary Rounds

Additional prizes

Additional prizes will be awarded to:

- Top 3 competitors under 18
- Top 3 competitors over 50

The WPF determines a participant's age by what year they were born. Under 18 = Born on or after 1 January 1998 (ie, they are not yet, and will not become 18 this year). Over 50 = Born on or before 31 December 1966 (ie, they are over, or will become 50 this year).

Tour de Senec

Besides the main awards, additional prizes will be prepared for the World Sudoku Championship competitors. Following is the list of prizes and the awarding criteria. The actual prizes will be revealed during the Award Ceremony.

Winner

This prize will be awarded to the best competitor in the Preliminary Rounds. In case of a tie, a tie-breaker puzzle will be solved to choose the winner.

Best Newcomer

This prize will be awarded to the best newcomer in the Preliminary Rounds. In case of a tie, a tie-breaker puzzle will be solved to choose the winner.

Best Sprinter

This prize will be awarded to the best competitor in the sprint rounds. The following rounds are considered sprint: Round 2 – Classics, Round 4 – Tredoku, Round 12 – Gappy Classics. In case of a tie, a tie-breaking puzzle will be solved to choose the winner.

King of the Mountains

This prize will be awarded to the best competitor in difficult sudoku solving. Following is the list of the difficult puzzles belonging to this category. These puzzles will be marked with a symbol of a flag in the puzzle booklets. The winner of this category will be determined by the highest sum of points achieved for the marked puzzles. In case of a tie, a tie-breaking puzzle will be solved to choose the winner.

Round 1 – 10. Battenburg (67 p), 14. Pointing Differents (96 p)

Round 3 – 8. Square Numbers (87 p), 14. External (71 p), 16. Digital (120 p)

Round 5 – 4. Liar Even (92 p), 7. Liar Quad Sum (69 p), 8. Liar Killer (67 p)

Round 6 – 3. Killer (91 p), 8. Pencilmark (77 p)

Round 11 – 2. Antiknight (86 p), 4. Multidiagonal (93 p), 9. Outside Sums (111 p), 12. Multiples (77 p), 13. Killer (126 p), 14. Star Product (98 p), 15. Combined 1 (110 p), 16. Combined 2 (99 p)

Round 1 – DEBUTS

Individual

Monday 17th October 2016, 09:00 – 09:40
40 minutes – 14 puzzles – 500 points

1. Mirror Sudoku 6x6 ..... 5 points
2. Mirror Sudoku 9x9 ..... 57 points
3. Exclusion Sudoku 6x6 ..... 18 points
4. Exclusion Sudoku 9x9 ..... 58 points
5. Digital Clock Sudoku 6x6 ..... 7 points
6. Digital Clock Sudoku 9x9 ..... 35 points
7. Capsules Sudoku 6x6 ..... 8 points
8. Capsules Sudoku 9x9 ..... 55 points
9. Battenburg Sudoku 6x6 ..... 15 points
10. Battenburg Sudoku 9x9 ..... 67 points
11. Zones Sudoku 6x6 ..... 9 points
12. Zones Sudoku 9x9 ..... 50 points
13. Pointing Differents 6x6 ..... 20 points
14. Pointing Differents 9x9 ..... 96 points

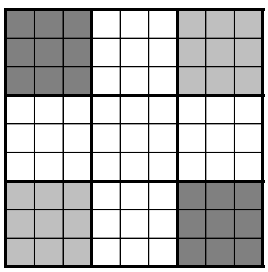
1. – 2. MIRROR SUDOKU (5 + 57 points)

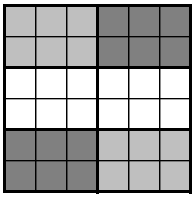
Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid) region. Numbers placed in two opposite corner 3x3 (3x2 in the smaller grid) regions must be symmetric about the center of the grid.

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

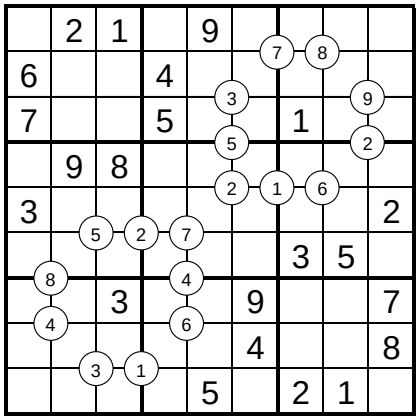
1	6	3	2	9	7	5	4	8
2	5	9	6	8	4	7	1	3
4	7	8	1	5	3	2	9	6
5	2	6	8	7	1	4	3	9
7	3	1	9	4	2	6	8	5
9	8	4	5	3	6	1	2	7
6	9	2	3	1	5	8	7	4
3	1	7	4	6	8	9	5	2
8	4	5	7	2	9	3	6	1

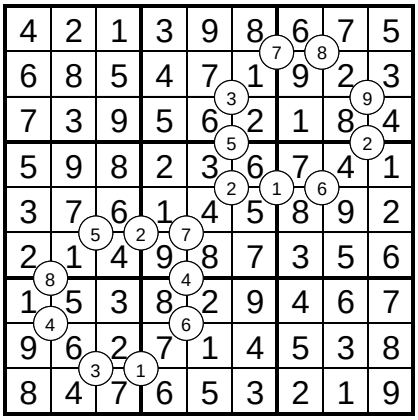
corner regions marked with gray colour:



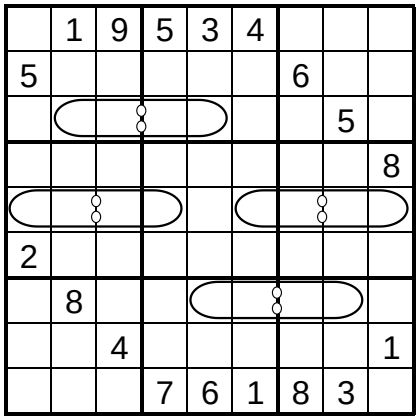


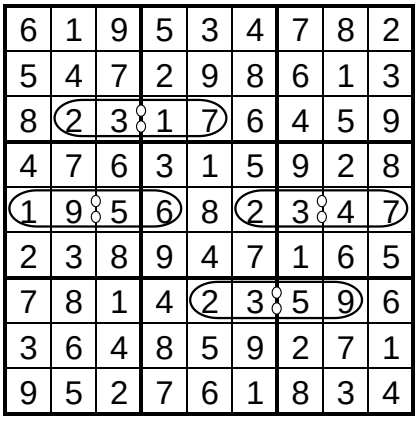
3. – 4. EXCLUSION SUDOKU (18 + 58 points)
Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid) region. Small number at the intersection of 4 adjacent cells indicates that this number cannot be placed in any of these 4 cells.



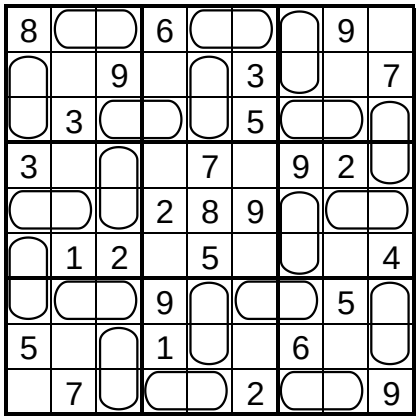


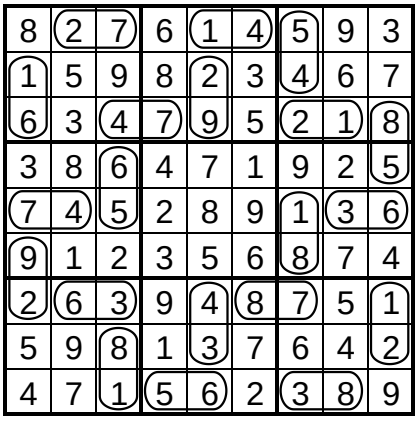
5. – 6. DIGITAL CLOCK SUDOKU (7 + 35 points)
Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid) region. Each of the marked quadruplets of cells marked with an oval must contain a valid expression of time – a value from 00:00 to 23:59, for example 21:46.





7. – 8. CAPSULES SUDOKU (8 + 55 points)
Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid) region. Each pair of cells marked with an oval must contain exactly one even and one odd number.

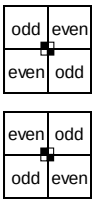




9. – 10. BATTENBURG SUDOKU (15 + 67 points)

Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid) region. Battenburg marking at the intersection of four adjacent cells indicates that there are exactly 2 even and 2 odd numbers placed in the adjacent cells which form a 2x2 checkerboard pattern. All such places have been marked.

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



Battenburg marking

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

11. – 12. ZONES SUDOKU (9 + 50 points)

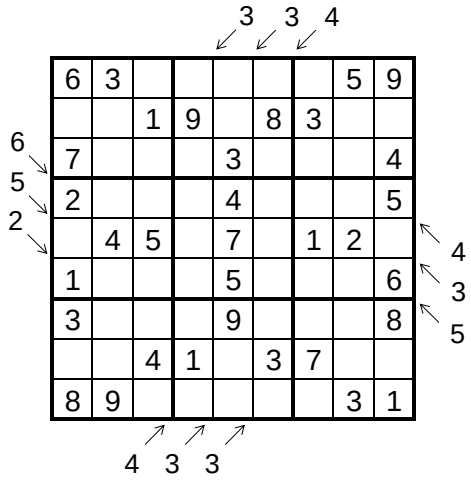
Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid) region. Numbers in the top-left corner of an outlined region must all appear in the corresponding region.

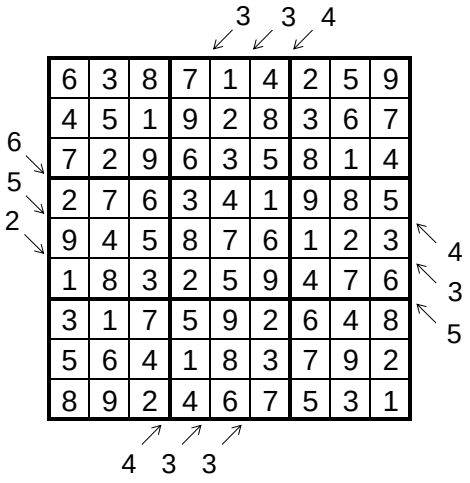
	1						5	
7				5				8
	256		3	2468	9			
		4				9		
	8			9	1234		2	
		5				1	268	
			9		7			
2				6				9
	6						3	

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

13. – 14. POINTING DIFFERENTS (20 + 96 points)

Fill in the whole grid with numbers from 1 to 9 (1 to 6 in the smaller grid) so that no digit is repeated within a row, a column or an outlined 3x3 (3x2 in the smaller grid). Numbers outside the grid indicate the number of different numbers placed in the cells in the corresponding diagonal direction.





Round 2 – CLASSICS

Individual

Monday 17th October 2016, 09:50 – 10:20
30 minutes – 11 puzzles – 400 points

1. Classic Sudoku ..... 23 points
2. Classic Sudoku ..... 26 points
3. Classic Sudoku ..... 28 points
4. Classic Sudoku ..... 29 points
5. Classic Sudoku ..... 30 points
6. Classic Sudoku ..... 30 points
7. Classic Sudoku ..... 38 points
8. Classic Sudoku ..... 43 points
9. Classic Sudoku ..... 45 points
10. Classic Sudoku ..... 50 points
11. Classic Sudoku ..... 58 points

This round will consist of 11 classic sudoku puzzles with different difficulties. Points awarded for each puzzle should match the puzzle difficulty, although your individual experience may differ.

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1. – 11. CLASSIC SUDOKU (23 – 58 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

	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 3 – ASSORTED

Individual

Monday 17th October 2016, 10:40 – 11:50
70 minutes – 16 puzzles – 800 points

1. – 2. CLASSIC SUDOKU (15 + 46 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

	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

3. UNTOUCHABLE SUDOKU (38 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in diagonally adjacent cells must be different.

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

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

4. NONCONSECUTIVE SUDOKU (42 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in orthogonally adjacent cells must not be consecutive, i.e. the difference of numbers placed in each two orthogonally adjacent cells must be at least 2.

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

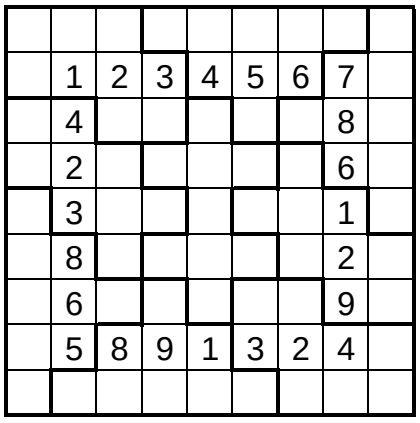
3	8	4	7	2	6	9	5	1
6	2	7	9	5	1	4	8	3
1	5	9	4	8	3	7	2	6
4	1	5	8	3	7	2	6	9
9	6	2	5	1	4	8	3	7
7	3	8	2	6	9	5	1	4
2	7	3	6	9	5	1	4	8
5	9	6	1	4	8	3	7	2
8	4	1	3	7	2	6	9	5

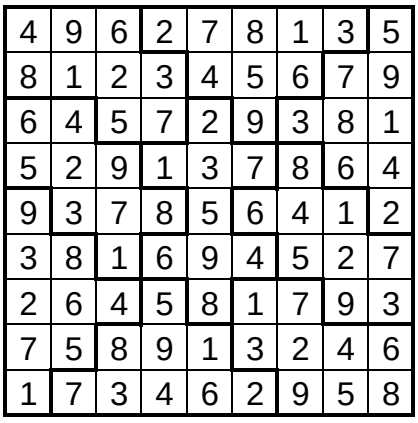
5. ANTIKNIGHT SUDOKU (58 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in cells related by a chess Knight's move (2+1 cells in any orthogonal direction) must be different.

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

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

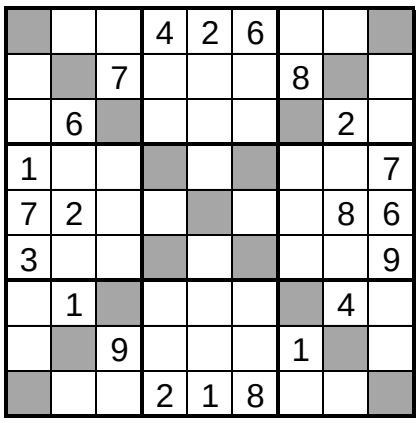
6. IRREGULAR SUDOKU (63 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined region.

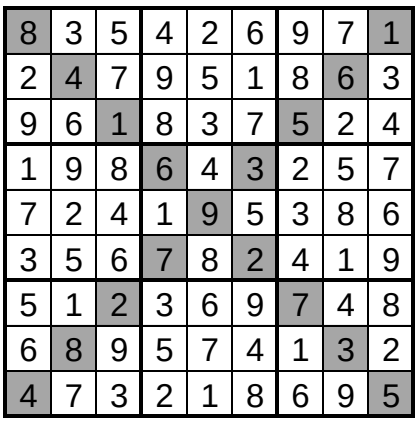




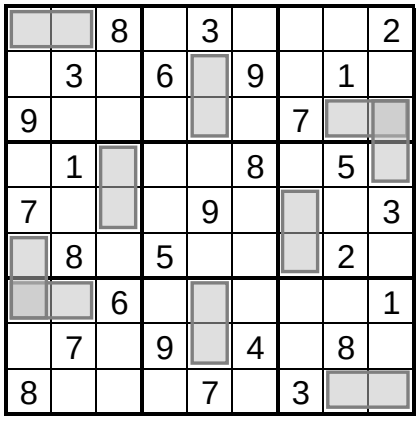
7. DIAGONAL SUDOKU (45 points)

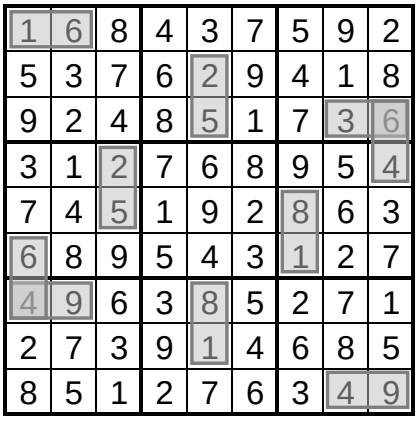
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the main diagonals must also contain each of the numbers 1-9 exactly once.



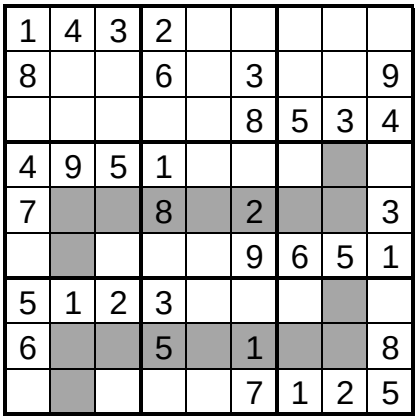


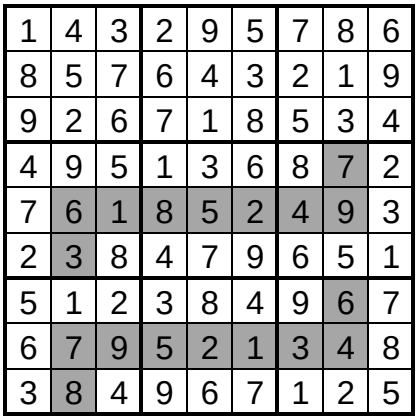
8. SQUARE NUMBERS SUDOKU (87 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If a pair of orthogonally adjacent cells is outlined by a gray region, it must contain a two-digit square number, read from top to bottom or from left to right. All such pairs have been marked.



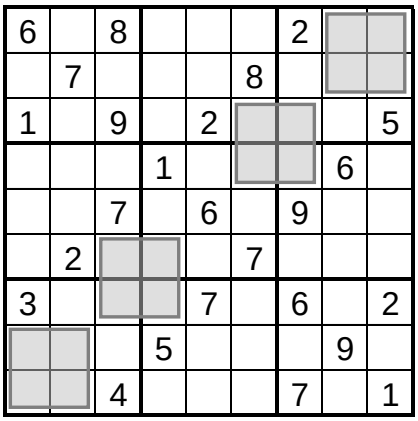


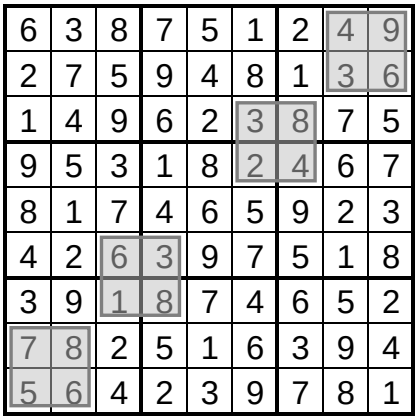
9. EXTRA REGION SUDOKU (38 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the shaded regions must also contain each of the numbers 1-9 exactly once.



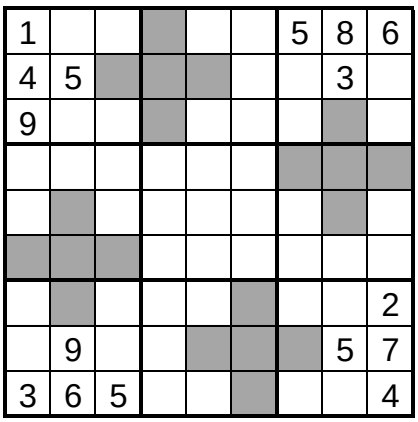


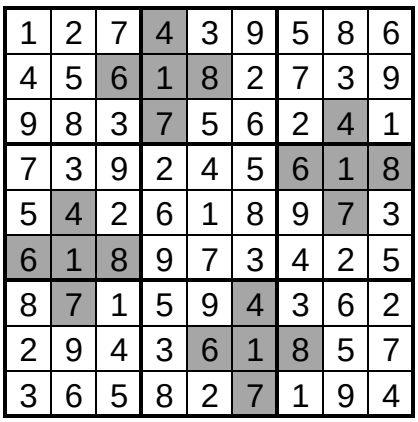
10. MULTIPLICATION SUDOKU (37 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Some areas of 2x2 cells in the grid have been outlined by a gray square. The two-digit number in the second line of such an area must be product of two one-digit numbers in the first line of the corresponding area.





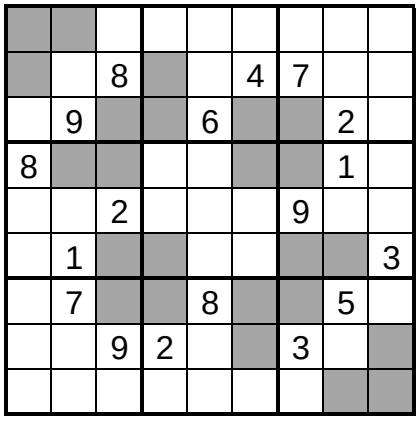
11. CLONES SUDOKU (23 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. In each of the shaded regions, the numbers placed in the cells at the same positions within the regions must be the same.

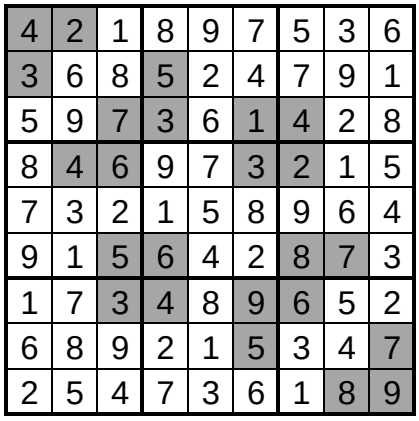




12. RENBAN SUDOKU (42 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The numbers placed in each of the shaded regions must form a consecutive set, in any order.

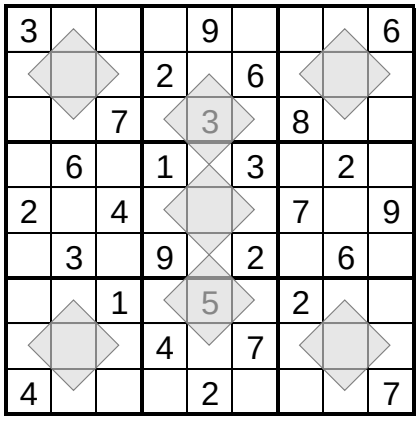


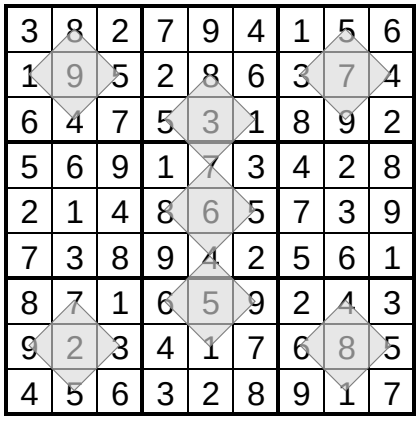


4	2	1	8	9	7	5	3	6
3	6	8	5	2	4	7	9	1
5	9	7	3	6	1	4	2	8
8	4	6	9	7	3	2	1	5
7	3	2	1	5	8	9	6	4
9	1	5	6	4	2	8	7	3
1	7	3	4	8	9	6	5	2
6	8	9	2	1	5	3	4	7
2	5	4	7	3	6	1	8	9

13. DIAMOND SUDOKU (46 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some square shaped figures in the grid. The sum of numbers placed in the square vertices must be a multiple of the number placed in the central cell of the square.

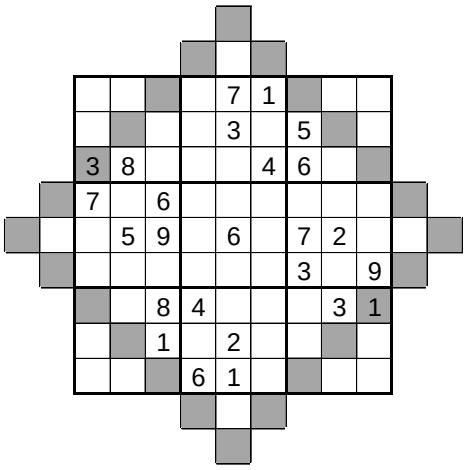


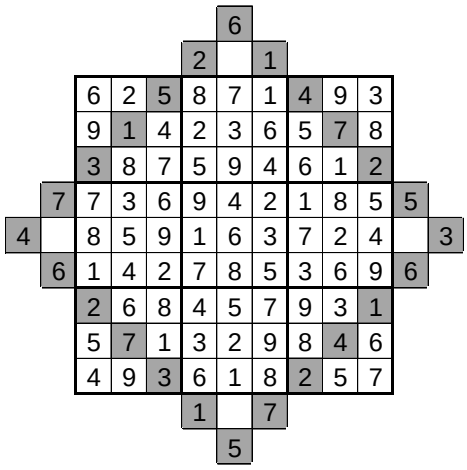


3	8	2	7	9	4	1	5	6
1	9	5	2	8	6	3	7	4
6	4	7	5	3	1	8	9	2
5	6	9	1	7	3	4	2	8
2	1	4	8	6	5	7	3	9
7	3	8	9	4	2	5	6	1
8	7	1	6	5	9	2	4	3
9	2	3	4	1	7	6	8	5
4	5	6	3	2	8	9	1	7

14. EXTERNAL SUDOKU (71 points)

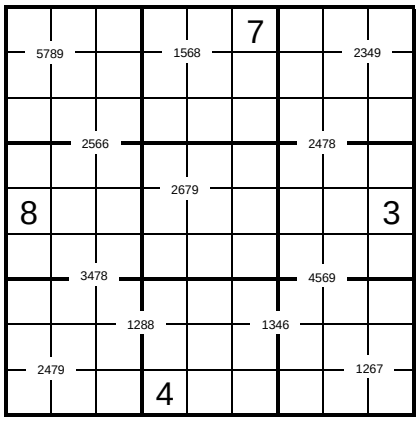
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Also fill in the gray cells with numbers 1-7 so that no number is repeated within an edge of the shaded square. The difference of each pair of numbers placed in diagonally adjacent shaded cells must be at least 2. To be awarded the points, both white and gray cells must be filled correctly.

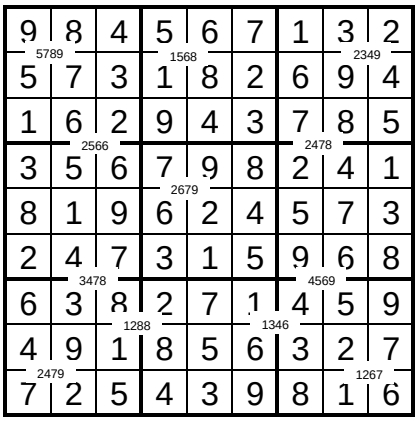




15. QUADRUPLE SUDOKU (29 points)

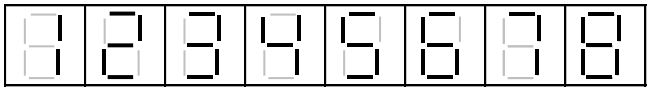
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers at the intersection of four adjacent cells must appear in those respective cells, in any order.

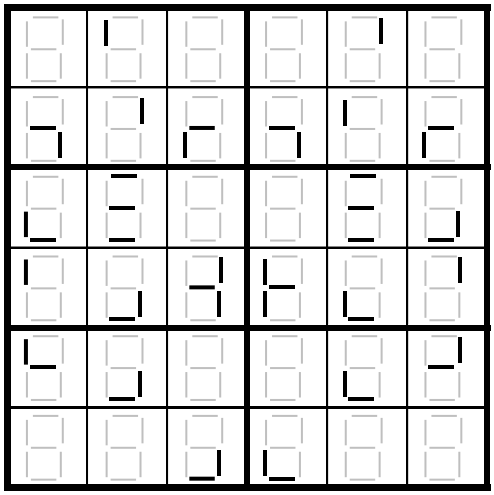


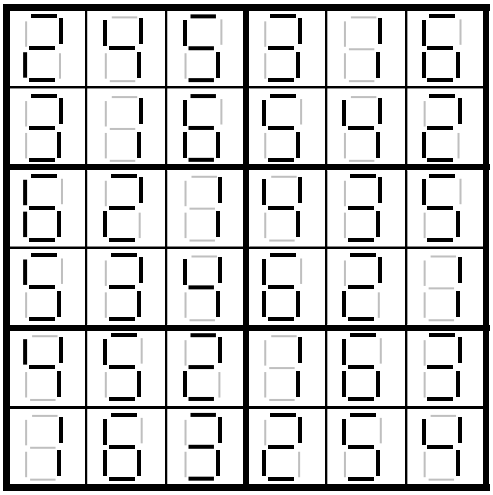


16. DIGITAL SUDOKU (120 points)

Fill in the whole grid with numbers from 1 to 8 (1 to 6 in the example puzzle) so that no digit is repeated within a row, a column or an outlined 2x4 rectangle (2x3 in the example puzzle). Some parts of the digits have been already given. You may use either digital, or Arabian numbers while solving, but it must be consistent within the whole grid. The exact shape of the digital numbers is given below.







Round 4 – TREDOKU

Individual

Monday 17th October 2016, 12:05 – 12:30

25 minutes – 1 puzzle – 240 points

1. Tredoku .....240 points

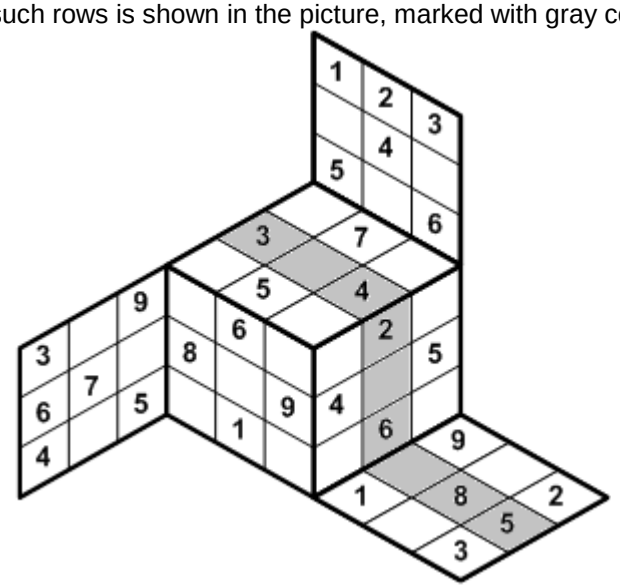
Points distribution: 4 points for each correctly filled outlined 3x3 square of numbers.

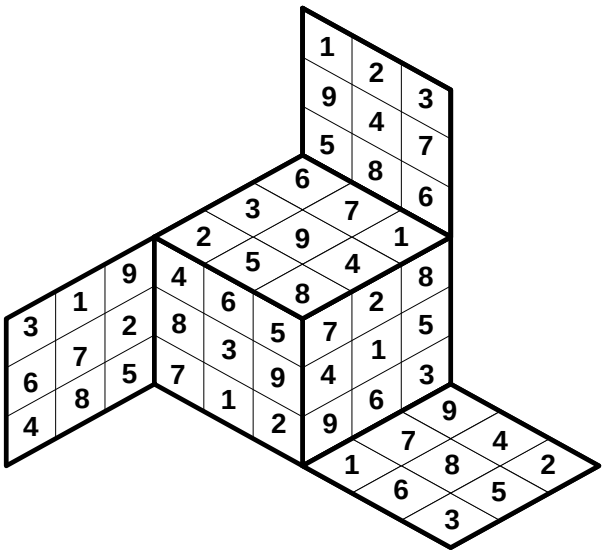
The shape and size of the puzzle will be different from the one in the example.

---

1. TREDOKU (240 points)

Fill in the whole grid with numbers 1-9 so that no number is repeated within a 3x3 square or continuous row of 9 cells. One of such rows is shown in the picture, marked with gray colour.





Round 5 – ALIENS

Individual

Monday 17th October 2016, 14:10 – 14:45
35 minutes – 8 puzzles – 400 points

1. Pinocchio Sudoku ..... 21 points
2. Liar Palindrome Sudoku ..... 35 points
3. Liar Extra Region ..... 36 points
4. Liar Even Sudoku ..... 92 points
5. Liar XV Sudoku ..... 32 points
6. Liar Thermometers ..... 48 points
7. Liar Quad Sum Sudoku ..... 69 points
8. Liar Killer Sudoku ..... 67 points

In this round, you will be given 8 sudoku puzzles. Each puzzle contains some marked clues, and in each one of these puzzles, exactly one given clue is wrong. Your goal is to find the wrong clue – the alien – and solve the rest of the puzzle according to the remaining clues.

---

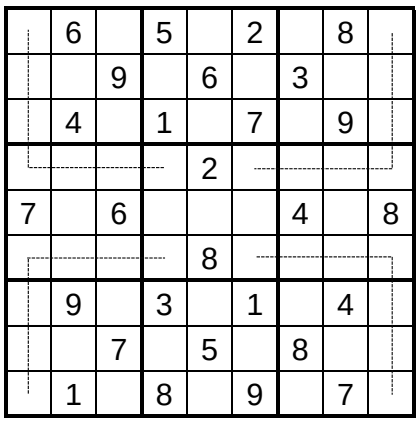
1. PINOCCHIO SUDOKU (21 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are 3 special numbers in the grid, written in white color and outlined. Exactly two of these numbers are given correctly while the third one is incorrect. It is a part of the solution to discover which one of these three numbers is incorrect.

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

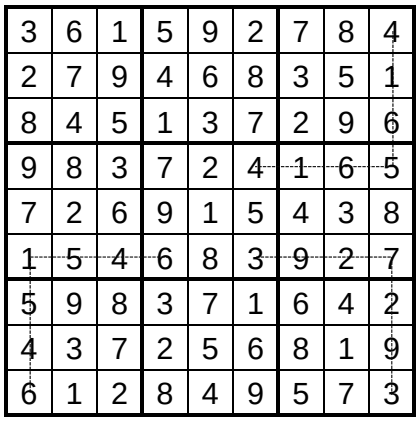
4	9	8	3	7	2	6	1	5
7	5	2	9	6	1	4	3	8
6	3	1	4	5	8	2	9	7
2	7	4	5	1	9	3	8	6
8	6	5	2	3	4	9	7	1
3	1	9	6	8	7	5	2	4
9	4	7	1	2	5	8	6	3
1	2	3	8	4	6	7	5	9
5	8	6	7	9	3	1	4	2

2. LIAR PALINDROME SUDOKU (35 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some lines marked in the grid. All of them but one are palindromes, i.e. the sequence of the numbers placed in the cells along the line is identical when read from either direction of the line. The remaining line must not be a palindrome. It is a part of the solution to discover which line is not a palindrome.



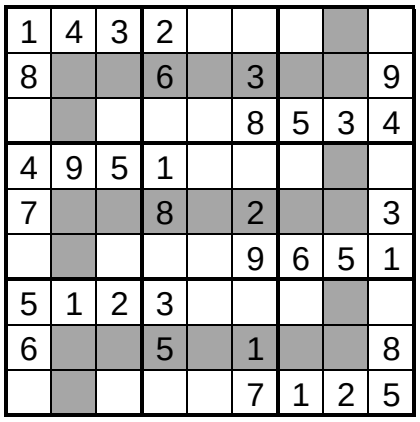
	6		5		2		8	
		9		6		3		
	4		1		7		9	
				2				
7		6				4		8
				8				
	9		3		1		4	
		7		5		8		
	1		8		9		7	



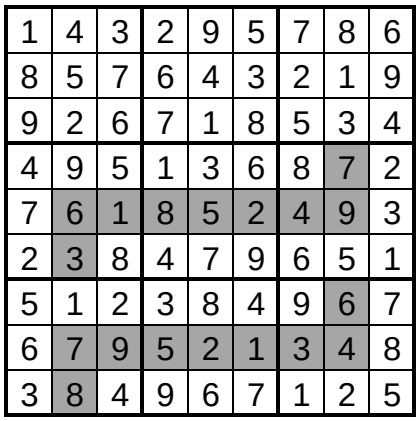
3	6	1	5	9	2	7	8	4
2	7	9	4	6	8	3	5	1
8	4	5	1	3	7	2	9	6
9	8	3	7	2	4	1	6	5
7	2	6	9	1	5	4	3	8
1	5	4	6	8	3	9	2	7
5	9	8	3	7	1	6	4	2
4	3	7	2	5	6	8	1	9
6	1	2	8	4	9	5	7	3

3. LIAR EXTRA REGION (36 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some shaded regions in the grid. All of them but one are extra regions, i.e. all numbers 1-9 must be placed exactly once in the cells of this region. The remaining shaded region must not be an extra region. It is a part of the solution to discover which region is not an extra region.



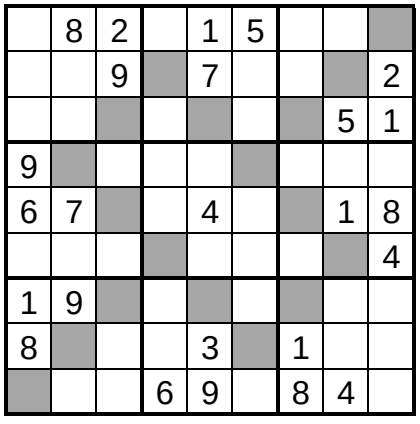
1	4	3	2					
8			6		3			9
					8	5	3	4
4	9	5	1					
7			8		2			3
					9	6	5	1
5	1	2	3					
6			5		1			8
					7	1	2	5



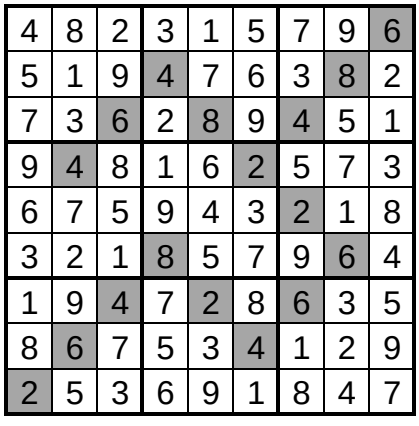
1	4	3	2	9	5	7	8	6
8	5	7	6	4	3	2	1	9
9	2	6	7	1	8	5	3	4
4	9	5	1	3	6	8	7	2
7	6	1	8	5	2	4	9	3
2	3	8	4	7	9	6	5	1
5	1	2	3	8	4	9	6	7
6	7	9	5	2	1	3	4	8
3	8	4	9	6	7	1	2	5

4. LIAR EVEN SUDOKU (92 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. All numbers placed in the shaded cells must be even, except one which is odd. It is a part of the solution to discover which shaded cell contains an odd number.



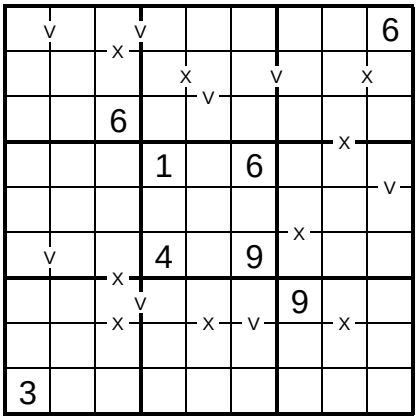
	8	2		1	5			
		9		7				2
							5	1
9								
6	7			4			1	8
								4
1	9							
8				3		1		
			6	9		8	4	

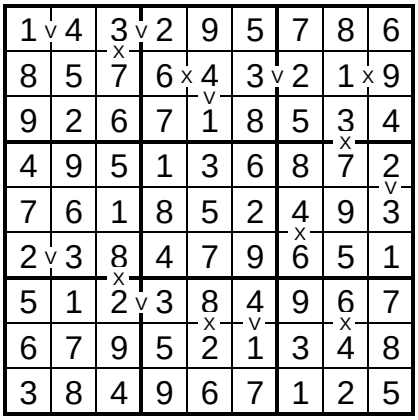


4	8	2	3	1	5	7	9	6
5	1	9	4	7	6	3	8	2
7	3	6	2	8	9	4	5	1
9	4	8	1	6	2	5	7	3
6	7	5	9	4	3	2	1	8
3	2	1	8	5	7	9	6	4
1	9	4	7	2	8	6	3	5
8	6	7	5	3	4	1	2	9
2	5	3	6	9	1	8	4	7

5. LIAR XV SUDOKU (32 points)

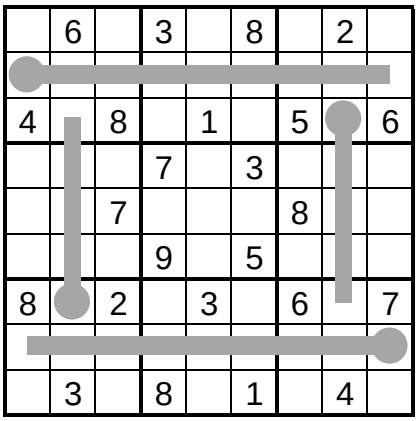
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. All pairs of orthogonally adjacent cells containing numbers whose sum is exactly 10 have been marked with X. All pairs of orthogonally adjacent cells containing numbers whose sum is exactly 5 have been marked with V. All marked symbols except one are correct – i.e. all but one indicate the sum of the numbers in two adjacent cells. It is a part of the solution to discover which of the given symbols is redundant.

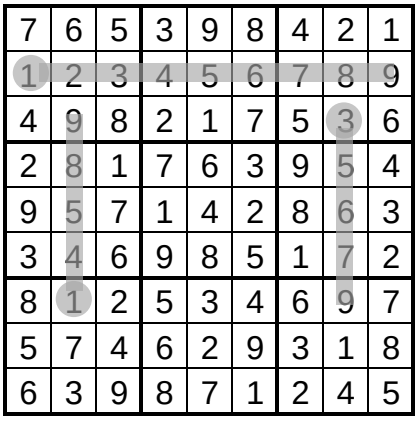




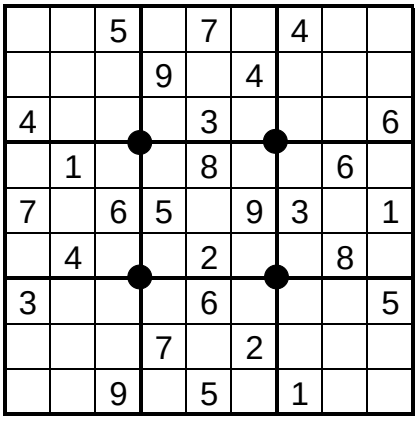
6. LIAR THERMOMETERS (48 points)

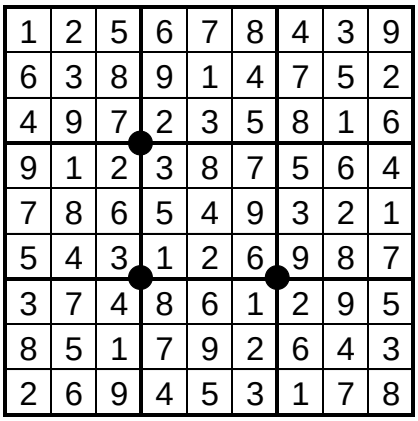
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some thermometers in the grid. In each thermometer except one, the numbers placed in the cells along the thermometer must appear in strictly increasing order, starting in the thermometer's bulb. The remaining thermometer is incorrect, i.e. numbers placed along it must not be in increasing order. It is a part of the solution to discover which thermometer is redundant.



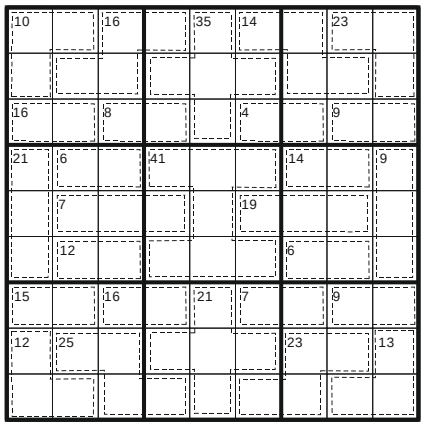


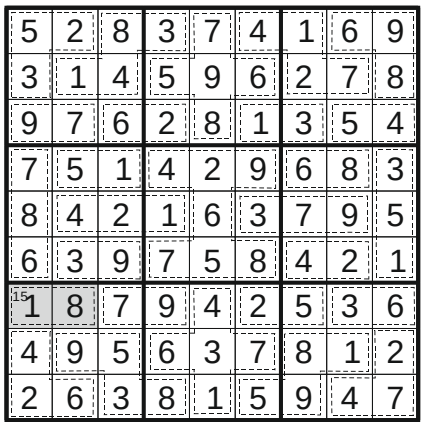
7. LIAR QUAD SUM SUDOKU (69 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some circles given at intersections of 4 adjacent cells. All but one of these circles indicate that one of the numbers placed in the neighboring cells is the sum of the other three numbers. It is part of a solution to discover which circle is redundant.





8. LIAR KILLER SUDOKU (67 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some small outlined cages marked in the grid. For all but one of them, the following rules apply: number in the top left corner indicates the sum of all the numbers within the cage, whereas all of these numbers must be distinct. There is exactly one cage in the grid where the condition is broken (either the sum is incorrect, or numbers are repeated, or both). It is a part of the solution to discover which of the cages does not fulfill both conditions.





Round 6 – BASICS

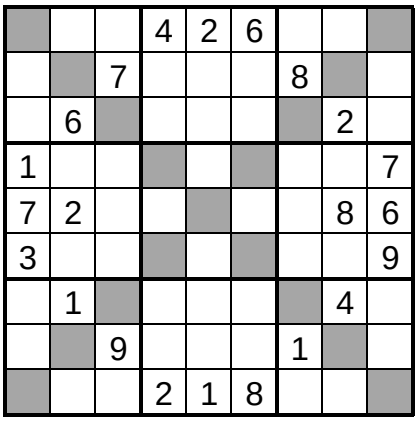
Individual

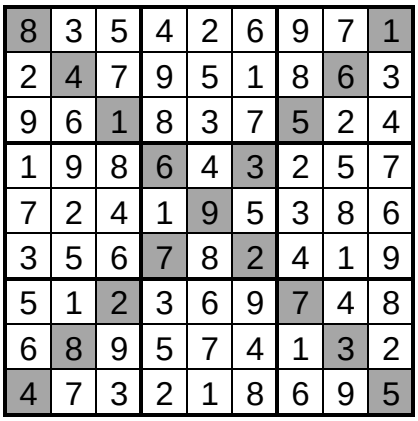
Monday 17th October 2016, 15:05 – 15:40

35 minutes – 8 puzzles – 350 points

1. DIAGONAL SUDOKU (28 points)

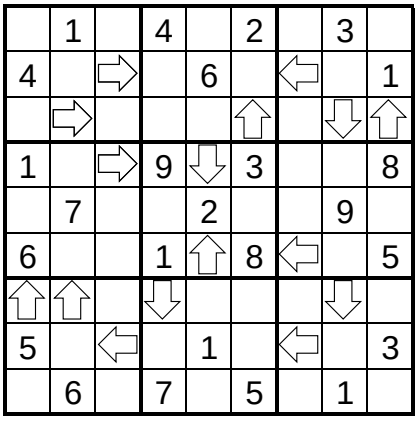
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the main diagonals must also contain each of the numbers 1-9 exactly once.

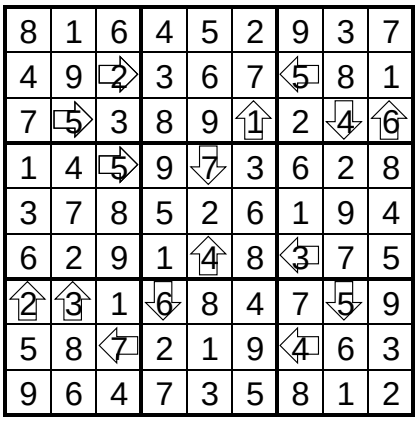




2. POINT TO NEXT SUDOKU (32 points)

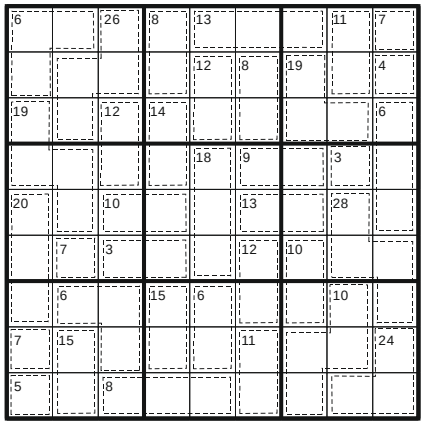
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some arrows placed in the grid. If number N is placed in the cell with an arrow then number N+1 must appear in one of the cells in the direction of the arrow.





3. KILLER SUDOKU (91 points)

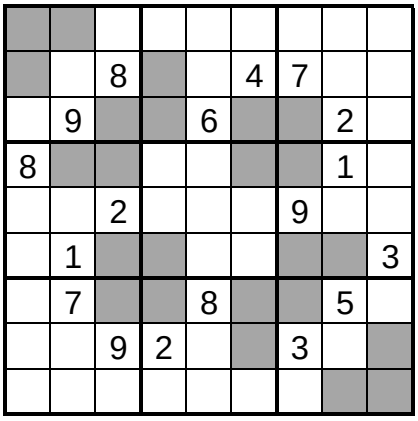
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Some areas of cells have been outlined to form small cages. Number in the top-left corner of each of such cages indicates the sum of all the numbers within the cage. Numbers must not be repeated within any cage.



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

4. RENBAN SUDOKU (26 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The numbers placed in each of the shaded regions must form a consecutive set, in any order.



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

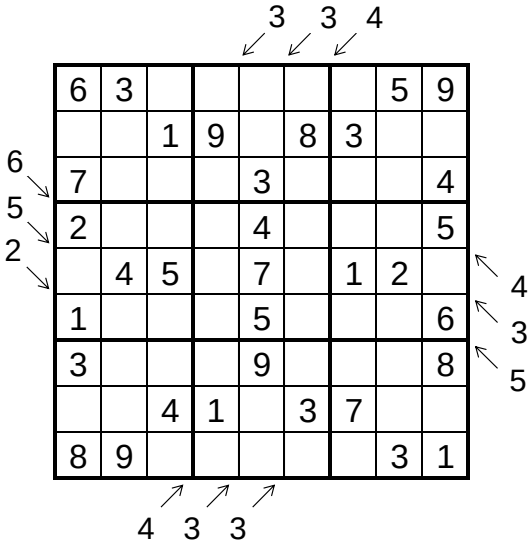
5. X-SUMS SUDOKU (37 points)

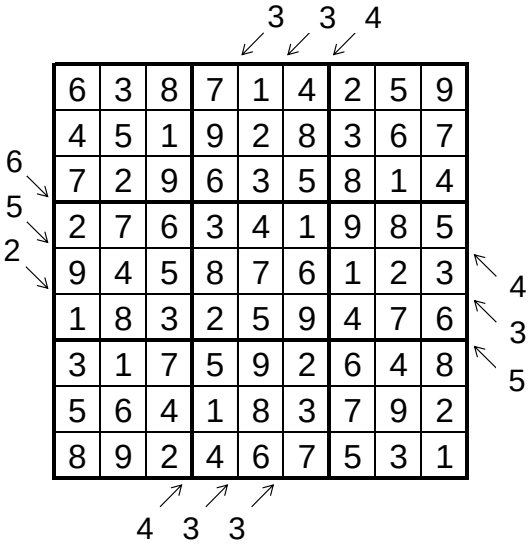
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid indicate the sum of the first X numbers in the corresponding direction, where X is the number placed in the first cell in that direction.

	37	25	6	45	14	38	1	29	22	
36										18
36										45
45										31
10										9
18										31
28										9
1										26
9										43
37										1
	21	45	32	36	7	36	16	16	1	

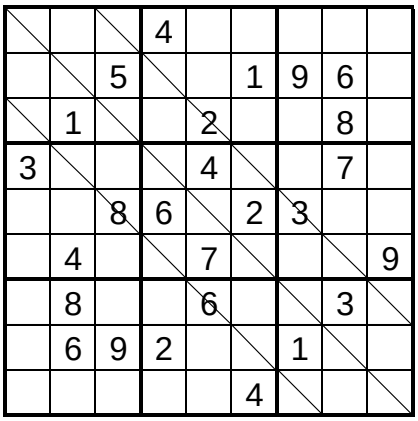
	37	25	6	45	14	38	1	29	22	
36	7	6	2	9	3	8	1	5	4	18
36	8	3	4	5	7	1	2	6	9	45
45	9	5	1	2	4	6	8	3	7	31
10	3	1	6	4	8	5	9	7	2	9
18	5	2	7	3	1	9	4	8	6	31
28	4	8	9	7	6	2	5	1	3	9
1	1	4	8	6	9	3	7	2	5	26
9	2	7	3	1	5	4	6	9	8	43
37	6	9	5	8	2	7	3	4	1	1
	21	45	32	36	7	36	16	16	1	

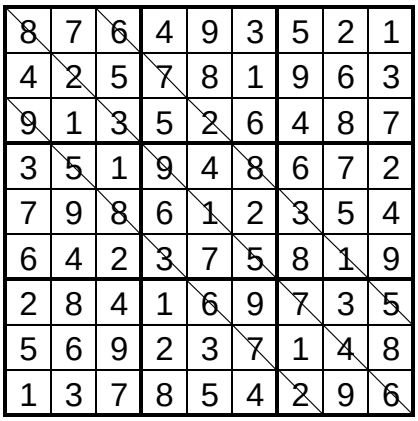
6. POINTING DIFFERENTS (25 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid indicate the number of different numbers placed in the cells in the corresponding diagonal direction.





7. MULTIDIAGONAL SUDOKU (34 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers must not be repeated along any of the marked diagonals.





8. PENCILMARK SUDOKU (77 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the cells contains a set of numbers. The number placed in each cell must always be one of the numbers in the set. You can either circle the correct number or write one by yourself but it must be consistent in the whole grid.

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

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

Round 7 – SPOILERS

Individual

Monday 17th October 2016, 15:55 – 16:25
30 minutes – 12 puzzles – 350 points

1. Classic Sudoku ..... 13 points
2. Variant 1 ..... 21 points
3. Classic Sudoku ..... 15 points
4. Variant 2 ..... 28 points
5. Classic Sudoku ..... 16 points
6. Variant 3 ..... 35 points
7. Classic Sudoku ..... 24 points
8. Variant 4 ..... 38 points
9. Classic Sudoku ..... 25 points
10. Variant 5 ..... 45 points
11. Classic Sudoku ..... 27 points
12. Variant 6 ..... 63 points

This round will consist of 6 pairs of puzzles. In each pair there is one classic sudoku and one variant puzzle with 3 different rules, of which only one belongs to that puzzle. By solving the classic sudoku and summing up numbers in the marked cells, you will get a spoiler, which will tell you which are the correct rules for the Variant puzzle.

Only one of the rules provided to each of the Variant puzzles will be applicable to that puzzle, i.e. each puzzle can be solved with using exactly one of the provided rules. Therefore, it is not needed for a solver to solve the Classic sudokus in order to determine the Variant puzzle rules and it is up to each competitor whether he/she decides to solve a Classic sudoku first or figures the rules by himself/herself.

An example of summing up the marked cells and determining the rules for the second puzzle:

	4		2
		◯	
	◯		
1		4	

SUM 5 : Untouchable Sudoku
SUM 6 : Diagonal Sudoku
SUM 7 : Nonconsecutive Sudoku

	1		2
4		3	

After solving the puzzle and summing up the circled numbers, the sum is 6. That means that the Variant puzzle is a diagonal sudoku.

3	4	1	2
2	1	(3)	4
4	(3)	2	1
1	2	4	3

SUM 5 : Untouchable Sudoku
SUM 6 : Diagonal Sudoku
SUM 7 : Nonconsecutive Sudoku

2	4	1	3
3	1	4	2
4	2	3	1
1	3	2	4

1., 3., 5., 7., 9., 11. CLASSIC SUDOKU
Fill in both grids with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

	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

2., 4., 6., 8., 10., 12. VARIANT SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. To find out an additional rule, add up the numbers placed in the cells marked with circles in the corresponding Classic sudoku and compare the sum with the given table.

2. Variant 1 (21 points)

Sum A: ANTIKNIGHT SUDOKU
Numbers placed in cells related by a chess Knight's move (2+1 cells in any orthogonal direction) must be different.

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

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

Sum B: NO 10 SUDOKU
No two orthogonally adjacent cells may contain numbers whose sum is exactly 10.

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

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

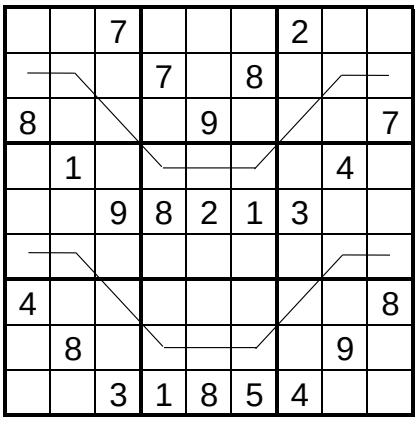
Sum C: NONCONSECUTIVE SUDOKU
Numbers placed in orthogonally adjacent cells must not be consecutive, i.e. the difference of numbers in each two orthogonally adjacent cells must be at least 2.

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

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

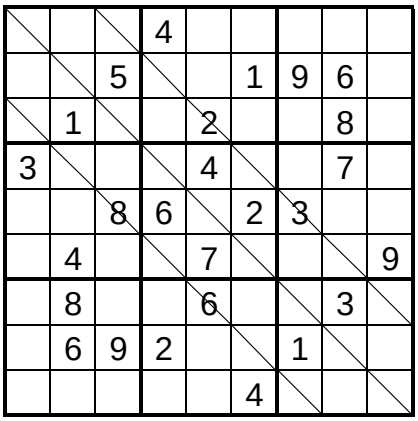
4. Variant 2 (28 points)

Sum A: CONSECUTIVE ON-LINE SUDOKU
The difference of every pair of numbers placed in the cells adjacent to each other along the marked lines must be exactly 1.



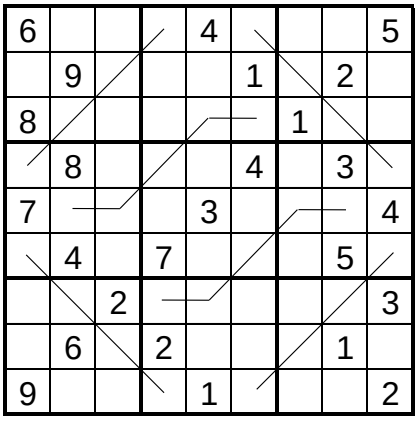
1	9	7	6	5	4	2	8	3
2	3	6	7	1	8	9	5	4
8	5	4	2	9	3	6	1	7
3	1	2	5	6	7	8	4	9
5	4	9	8	2	1	3	7	6
7	6	8	3	4	9	5	2	1
4	2	5	9	7	6	1	3	8
6	8	1	4	3	2	7	9	5
9	7	3	1	8	5	4	6	2

Sum B: MULTIDIAGONAL SUDOKU
Numbers must not be repeated along any of the marked diagonals.



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

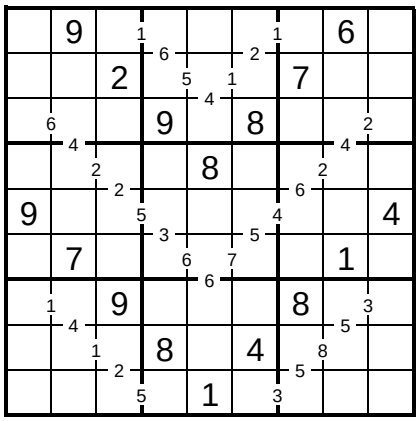
Sum C: PARITY SUDOKU
All numbers placed in the cells belonging to the same diagonal line must be of the same parity.

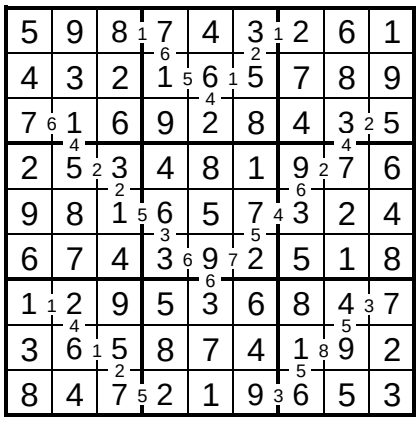


6	7	1	8	4	2	3	9	5
5	9	4	3	7	1	6	2	8
8	2	3	6	9	5	1	4	7
2	8	9	1	5	4	7	3	6
7	1	5	9	3	6	2	8	4
3	4	6	7	2	8	9	5	1
1	5	2	4	6	9	8	7	3
4	6	7	2	8	3	5	1	9
9	3	8	5	1	7	4	6	2

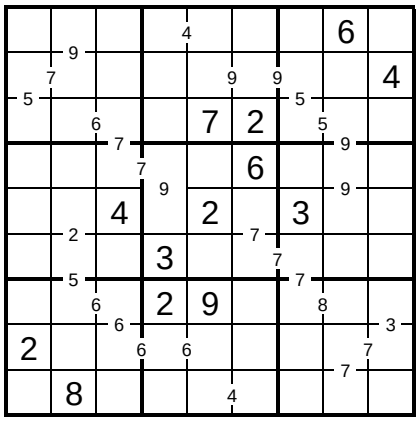
6. Variant 3 (35 points)

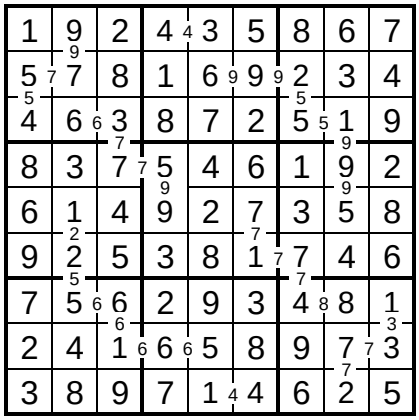
Sum A: DIFFERENCE SUDOKU
Number between each pair of orthogonally adjacent cells indicates the difference of the numbers placed in the corresponding cells.



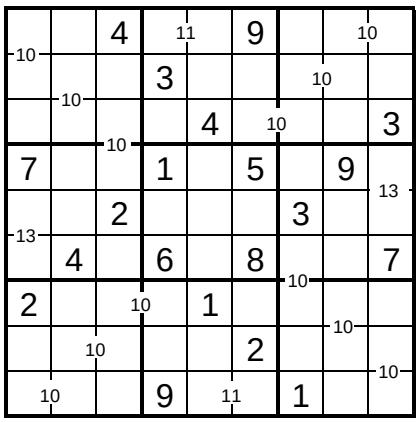


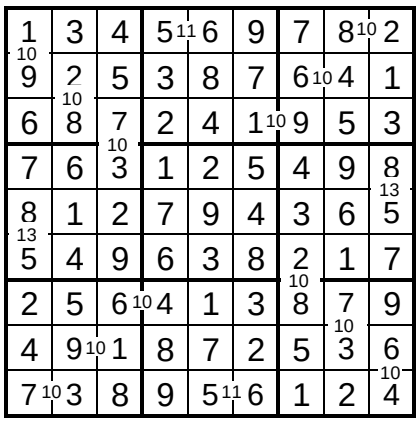
Sum B: GREATER SUDOKU
Number between each pair of orthogonally adjacent cells indicates the greater of the numbers placed in the corresponding cells.





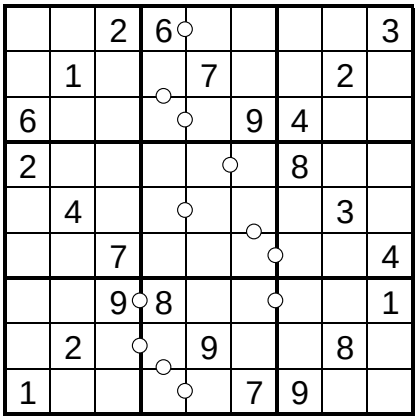
Sum C: SUM SUDOKU
Number between each pair of orthogonally adjacent cells indicates the sum of the numbers placed in the corresponding cells.

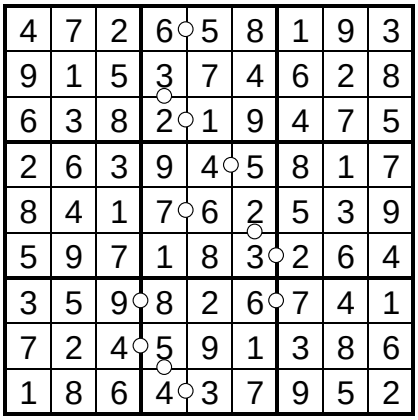




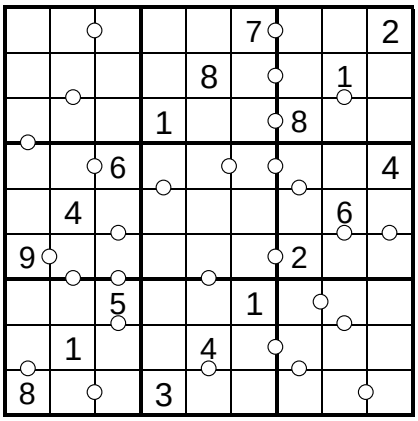
8. Variant 4 (38 points)

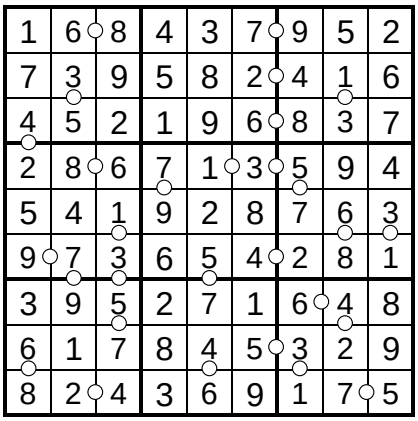
Sum A: CONSECUTIVE SUDOKU
If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. All possible dots have been given.



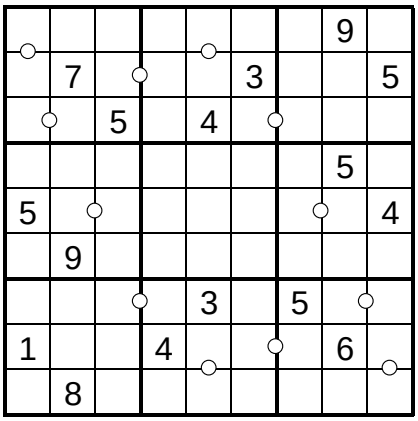


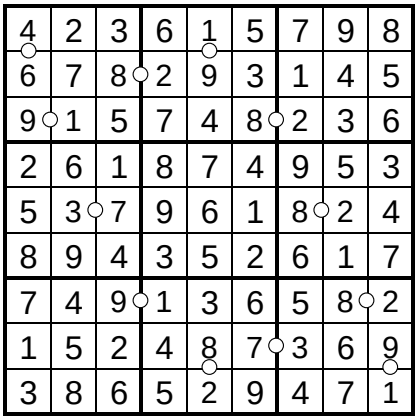
Sum B: 2-CONSECUTIVE SUDOKU
If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly two. All possible dots have been given.





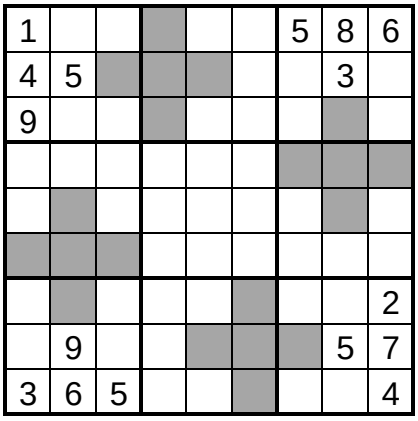
Sum C: TEN SUDOKU
If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose sum is exactly ten. All possible dots have been given.





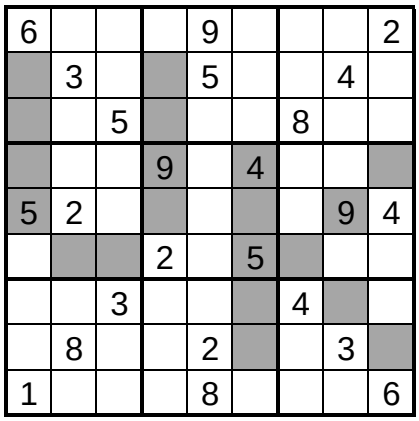
10. Variant 5 (45 points)

Sum A: CLONES SUDOKU
All shaded regions must contain the same sets of numbers at the same relative positions.



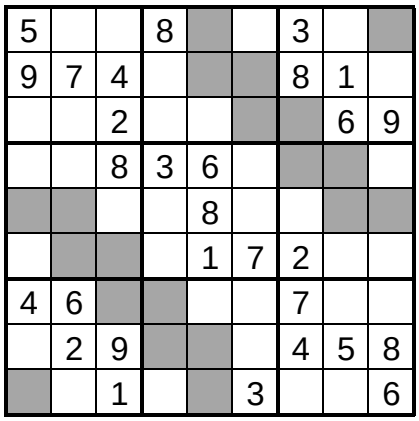
1	2	7	4	3	9	5	8	6
4	5	6	1	8	2	7	3	9
9	8	3	7	5	6	2	4	1
7	3	9	2	4	5	6	1	8
5	4	2	6	1	8	9	7	3
6	1	8	9	7	3	4	2	5
8	7	1	5	9	4	3	6	2
2	9	4	3	6	1	8	5	7
3	6	5	8	2	7	1	9	4

Sum B: FORTRESS SUDOKU
Numbers placed in gray cells must be greater than all the numbers placed in the orthogonally adjacent white cells.



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

Sum C: ODD SUDOKU
All numbers placed in shaded cells must be odd.

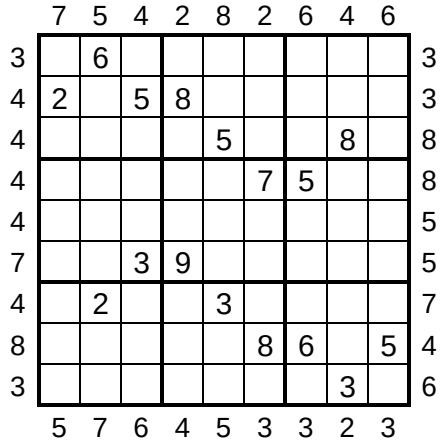


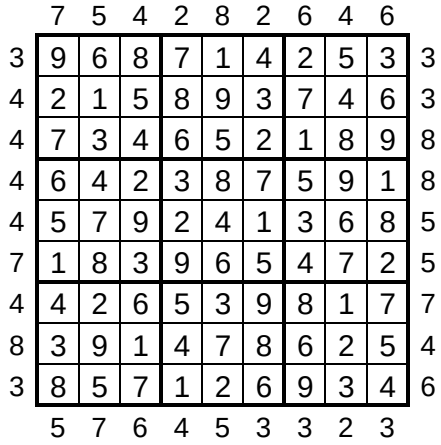
5	1	6	8	9	2	3	4	7
9	7	4	6	3	5	8	1	2
8	3	2	7	4	1	5	6	9
2	4	8	3	6	9	1	7	5
1	5	7	2	8	4	6	9	3
6	9	3	5	1	7	2	8	4
4	6	5	9	2	8	7	3	1
3	2	9	1	7	6	4	5	8
7	8	1	4	5	3	9	2	6

12. Variant 6 (63 points)

Sum A: MINMAX DIFFERENCE SUDOKU

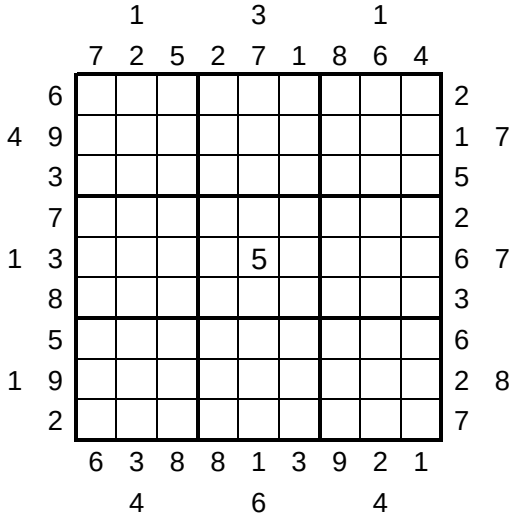
Numbers outside the grid indicate the difference of the largest and the smallest number placed in the first three cells in the corresponding direction.

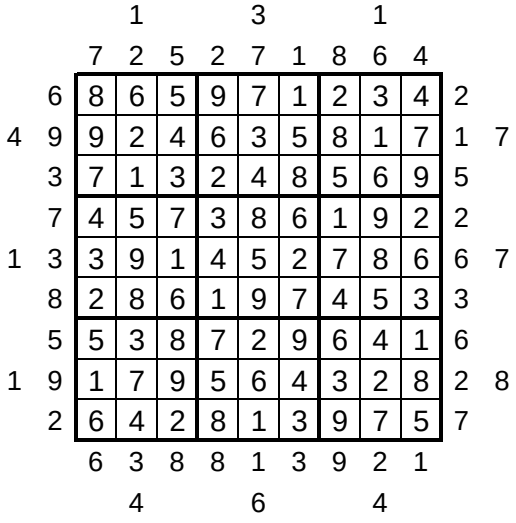




Sum B: OUTSIDE SUDOKU

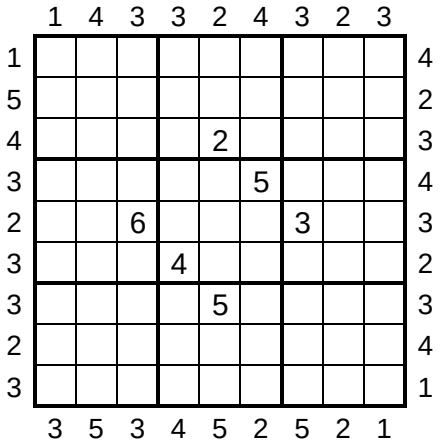
Number outside the grid must be placed in one of the first three cells in the corresponding direction.

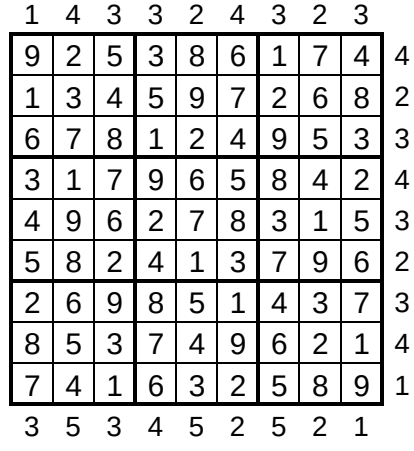




Sum C: SKYSCRAPERS SUDOKU

Each number N inside the grid represents an N-storey skyscraper. Numbers outside the grid indicate how many skyscrapers are visible in the corresponding direction. Higher skyscrapers block the view of the lower ones.





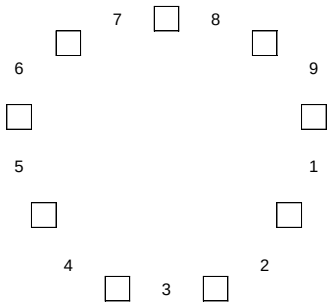
Round 8 – UROBOROS

Team

Monday 17th October 2016, 17:15 – 17:50
35 minutes – 9 puzzles – 1800

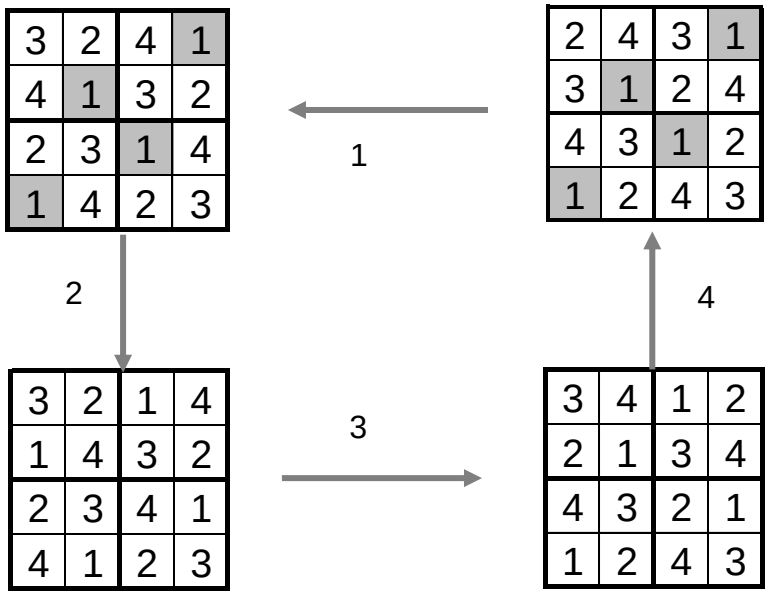
1. Consecutive Sudoku .....200 points
2. Greater Than Sudoku .....200 points
3. Kropki Sudoku .....200 points
4. Neighbours Sudoku .....200 points
5. Next To 9 Sudoku .....200 points
6. Skyscrapers Sudoku .....200 points
7. Twin Detector Sudoku .....200 points
8. X-Sums Sudoku .....200 points
9. XV Sudoku .....200 points

This round will contain 9 grids. These will be arranged into a circle and each pair of adjacent puzzles will be linked. There is one significant number for each pair of adjacent grids along the circle. All numbers equal to the significant number must be placed at the same positions in both grids. The significant numbers form an arithmetical sequence along the circle – 1, 2, 3, …, 9. It is a part of a solution to discover the beginning and the direction of the sequence – the picture on the right is only illustrational. Further is the list of all the puzzles which will appear in this round. The actual layout of the puzzles will be revealed in the competition round.

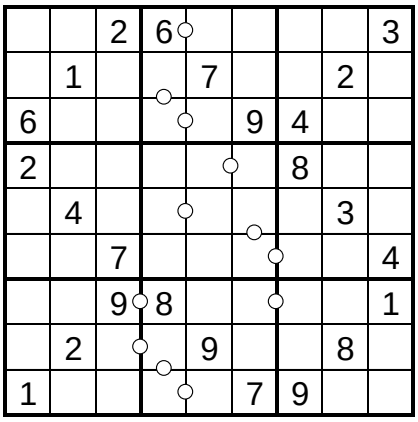


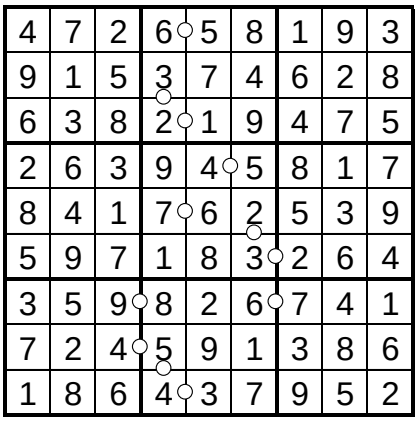
Example layout of significant numbers

Below is an example of linked puzzles. It consists of 4 Classic Sudoku 4x4, so the arithmetical sequence along the circle is 1,2,3,4.

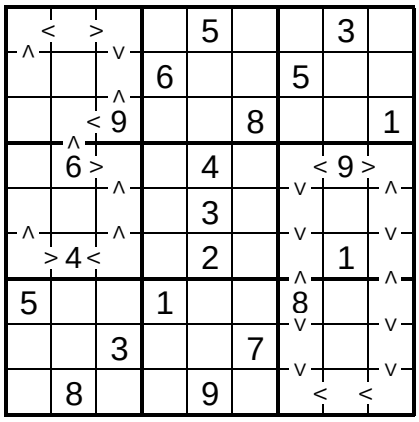


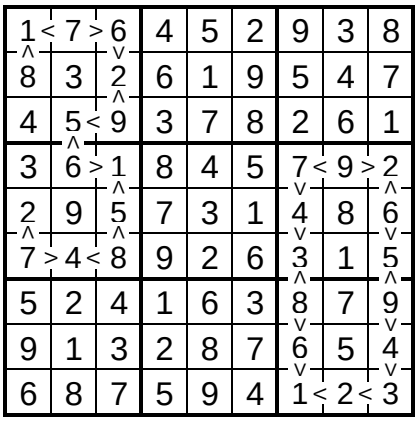
1. CONSECUTIVE SUDOKU (200 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then these cells must contain numbers whose difference is exactly one. All possible dots have been given.



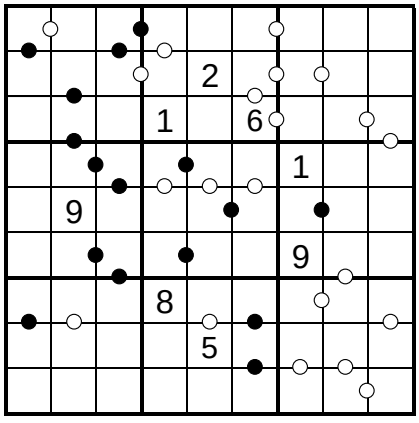


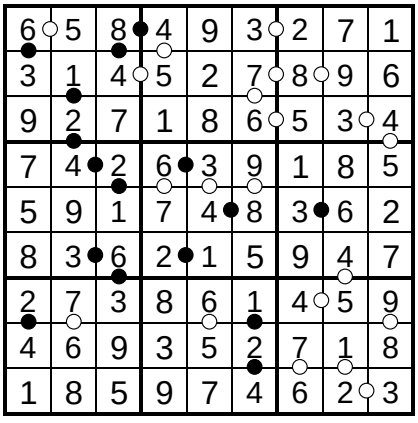
2. GREATER THAN SUDOKU (200 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is an inequality sign between a pair of orthogonally adjacent cells, the numbers in these cells must be placed according to the given sign.





3. KROPKI SUDOKU (200 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. If there is a black dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose quotient is exactly two. There can be either black or white dot between 1 and 2. All possible dots have been given.





4. NEIGHBOURS SUDOKU (200 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid must be placed in the adjacent cells in the corresponding row or column, in the given order.

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

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

5. NEXT TO 9 SUDOKU (200 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid must be placed in the cells adjacent to the cell where number 9 is placed, in any order.

	24	38	57	1	14	13	7	56	25
58									
4									
34									
1									
25									
45									
34									
45									
15									

	24	38	57	1	14	13	7	56	25
58	1	6	8	9	5	4	3	7	2
4	3	5	7	1	2	8	6	4	9
34	2	4	9	3	6	7	1	8	5
1	9	1	5	8	4	6	2	3	7
25	4	7	3	5	9	2	8	6	1
45	8	2	6	7	1	3	5	9	4
34	7	8	1	2	3	9	4	5	6
45	5	9	4	6	8	1	7	2	3
15	6	3	2	4	7	5	9	1	8

6. SKYSCRAPERS SUDOKU (200 points)

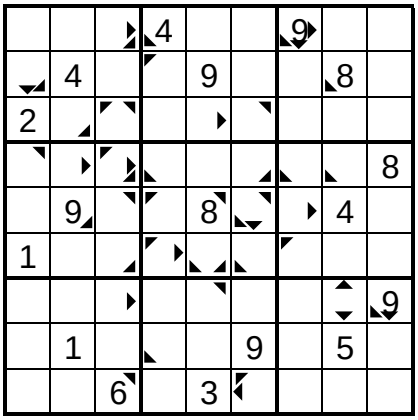
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each number N inside the grid represents an N-storey skyscraper. Numbers outside the grid indicate how many skyscrapers are visible in the corresponding direction. Higher skyscrapers block the view of the lower ones.

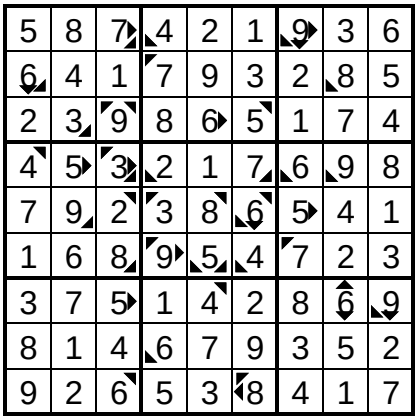
	1	4	3	3	2	4	3	2	3	
1										4
5										2
4					2					3
3						5				4
2			6				3			3
3				4						2
3					5					3
2										4
3										1
	3	5	3	4	5	2	5	2	1	

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

7. TWIN DETECTOR SUDOKU (200 points)

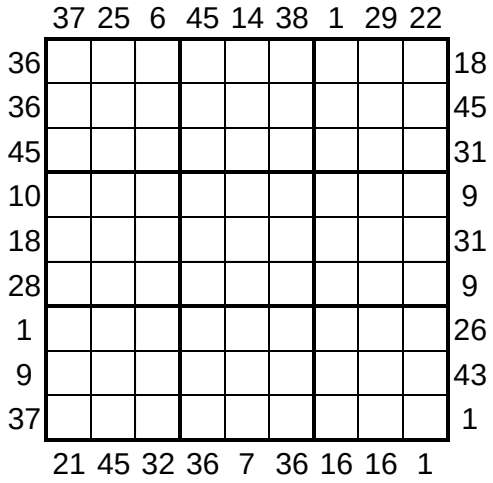
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Wherever the number in the cell equals to a total of any amount of the closest numbers in any direction there is an arrow pointing to that direction.

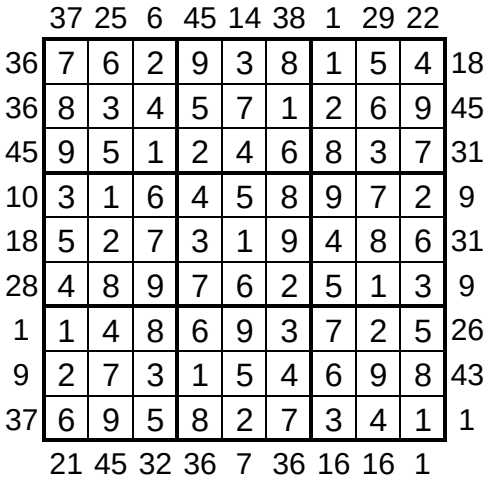




8. X-SUMS SUDOKU (200 points)

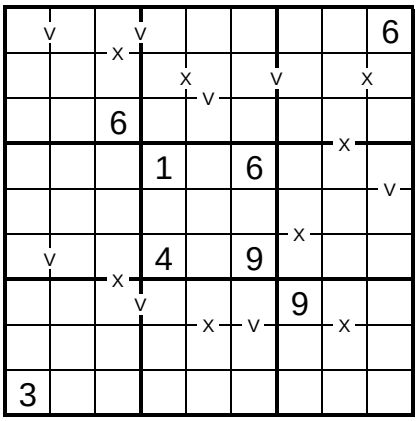
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid indicate the sum of the first X numbers in the corresponding direction, where X is the number placed in the first cell in that direction.

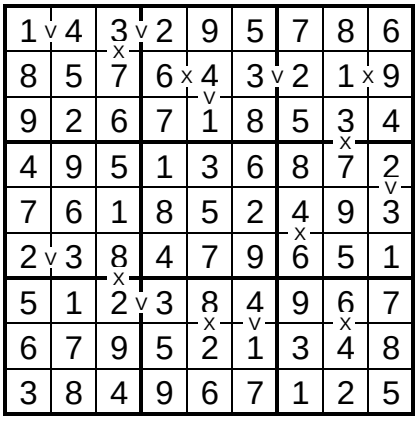




9. XV SUDOKU (200 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. 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.





Round 9 – SUDOKU PIECES

Team

Monday 17th October 2016, 18:00 – 18:20
20 minutes – 5 puzzles – 800 points

1. Classic Jigsaw Sudoku .....112 points
2. Odd Jigsaw Sudoku .....148 points
3. Killer Jigsaw Sudoku .....400 points
4. Consecutive On-Line Jigsaw Sudoku .....65 points
5. Kropki Jigsaw Sudoku .....75 points

There are 5 jigsaw puzzles in this round. Some parts have been removed from every sudoku and your task is to place them back in the grid and solve it according to the rules afterwards. The pieces will be printed on a transparent film. To receive full points, it is not necessary to mark the position of the pieces in the grids, as long as all of the numbers are filled in correctly.

1. CLASSIC JIGSAW SUDOKU (112 points)
Place all the given pieces into the grid so that the thickness of the lines displayed on the pieces matches the thickness of the lines in the grid. The pieces cannot overlap each other and the numbers on the pieces cannot overlap the numbers given in the grid. The pieces cannot be rotated nor reflected. Then, fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

2	3	7
5	6	8

8	9	
3		7
	2	4

	4	
6		8
	9	

3	2	9
8	7	5

6		8
9		2
5		3

	8	
9		7
	6	

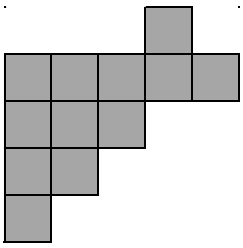
			1	9	4			
		3				1		
	5						7	
	1						4	
	7						1	
		4				7		
			6	4	1			

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

2. ODD JIGSAW SUDOKU (148 points)

Place all the given pieces into the grid so that they do not overlap the given numbers nor each other. The pieces cannot be rotated nor reflected.

Then, fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Shaded cells must contain odd numbers.



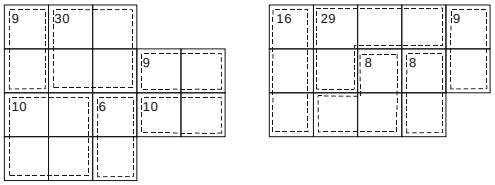
	4		1		6		9	
9		7				5		8
8								2
				9	8			
6			4		3			1
4			6	5				7
	8						6	
3	2			6			8	4

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

3. KILLER JIGSAW SUDOKU (400 points)

Place all the given pieces consisting of small regions into the grid so that they do not overlap the given numbers nor each other. The pieces cannot be rotated nor mirrored.

Then, fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers in the top-left corner of each small region indicates the sum of all numbers placed inside the region. Numbers cannot be repeated within the region.



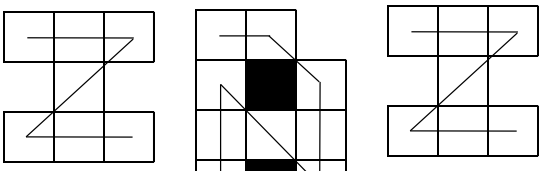
	5						4	
2								9
5								6
		8	4	2	5	3		
1			8		9			5
6								1
4	7						9	8

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

4. CONSECUTIVE ON-LINE JIGSAW SUDOKU (65 points)

Place all the given pieces into the grid so that they do not overlap each other nor the given numbers (i.e. no cell in the grid can contain two pieces nor a given number and a part of a piece at the same time). The pieces cannot be rotated nor mirrored.

Then, fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The difference of each pair of adjacent numbers along the marked lines must be exactly one.



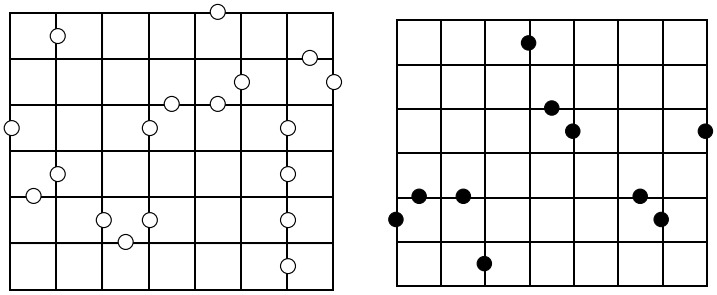
	9	3	8					
					7	1	6	9
6	7	4						
	3	7	1	2				
			9	3	8			
						7	3	6

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

5. KROPKI JIGSAW SUDOKU (75 points)

You will be given two pieces – one will contain a set of white dots and the second a set of black dots. Put both pieces into the grid so that the dots are placed on the edges of cells. The pieces can be rotated but not reflected. The pieces can overlap each other. In a case of a white and a black dot overlapping, the black dot is superior.

Then, fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. If there is a black dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose quotient is exactly two. There can be either black or white dot between 1 and 2. All possible dots have been given.



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

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

Round 10 – GUESS NO MORE

Individual

Tuesday 18th October 2016, 09:00 – 09:30
30 minutes – 9 puzzles – 300 points

There are 9 classic sudoku puzzles in this round. Exactly 7 of them have a unique solution, while 1 of them has multiple solutions and 1 of them has no solution at all. It is a part of the solution to reveal which of the puzzles have unique solutions and mark the remaining ones.

Points distribution:

Correctly marked puzzle with no solution	24 points
Correctly marked puzzle with multiple solutions	38 points
Incorrectly marked puzzle with no solution	-24 points
Incorrectly marked puzzle with multiple solutions	-38 points
Correctly solved puzzles with one solution	34 points

In order to receive points for an incorrect puzzle, it must be clearly marked in the preallocated area. In order to receive points for a correct puzzle, it is enough to solve the puzzle – it is not needed to mark anything. Please beware that if a puzzle is incorrectly marked as having multiple or no solution, then the points will be subtracted from a competitor, even if the puzzle is correctly solved (i.e. a correctly solved puzzle marked as having no solution would be worth 34 - 24 = 10 points).
It is not possible to earn a negative number of points in this round. Should such a situation occur, a competitor will be given 0 points for this round.

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1. – 9. CLASSIC SUDOKU

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

	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

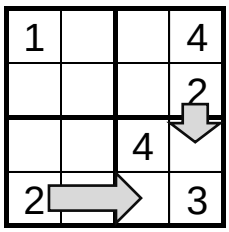
Below is a classic sudoku puzzle with multiple solutions. The grid on the right-hand side contains all the numbers which can be filled logically. The position of the remaining four numbers cannot be determined, thus the puzzle has multiple solutions.

1			4
		2	
		1	
2			3

1	2	3	4
		2	1
		1	2
2	1	4	3

Below is a classic sudoku puzzle with no solution. As shown in the grid on the right-hand side, number 2 cannot be placed in the bottom-right box unless it breaks one of the classic sudoku rules. The given digits which prevent the number 2 to be entered in the empty cells, are marked with an arrow.

1			4
			2
		4	
2			3



The answering form for marking the puzzle with no solution and with multiple solutions will be printed next to each puzzle and will look similiar to the one below.

	no solution
	1 solution
	multiple solutions

1			4
			2
		4	
2			3

Round 11 – SORTED

Individual

Tuesday 18th October 2016, 09:45 – 11:15
90 minutes – 16 puzzles – 1200 points

1. DISJOINT GROUPS SUDOKU (50 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers cannot be repeated at the same relative positions within the outlined 3x3 boxes.

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

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

2. ANTIKNIGHT SUDOKU (86 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in cells related by a chess Knight's move (2+1 cells in any orthogonal direction) must be different.

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

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

3. ANTIDIAGONAL SUDOKU (39 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Exactly three distinct numbers must appear on each of the marked diagonals.

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

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

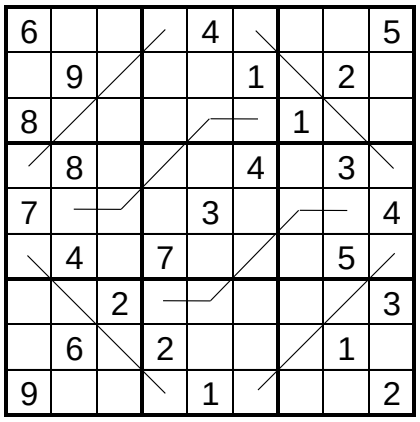
4. MULTIDIAGONAL SUDOKU (93 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers must not be repeated along any of the marked diagonals.

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

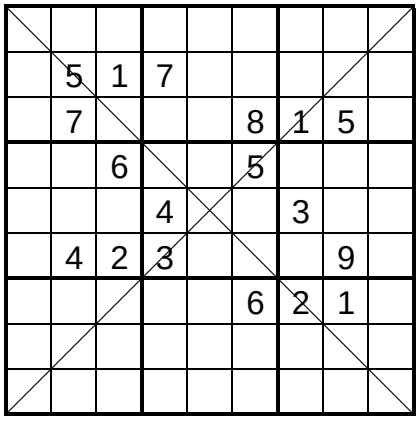
8	7	6	4	9	3	5	2	1
4	2	5	7	8	1	9	6	3
9	1	3	5	2	6	4	8	7
3	5	1	9	4	8	6	7	2
7	9	8	6	1	2	3	5	4
6	4	2	3	7	5	8	1	9
2	8	4	1	6	9	7	3	5
5	6	9	2	3	7	1	4	8
1	3	7	8	5	4	2	9	6

5. PARITY SUDOKU (56 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. All numbers placed in the cells belonging to the same diagonal line must be of the same parity.



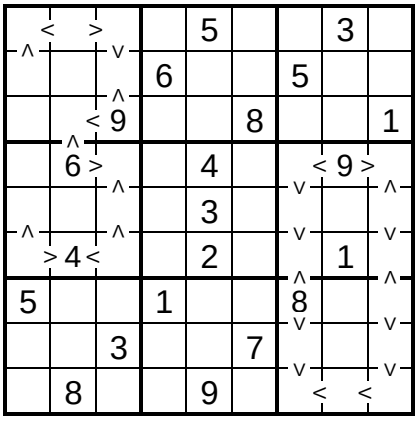
6	7	1	8	4	2	3	9	5
5	9	4	3	7	1	6	2	8
8	2	3	6	9	5	1	4	7
2	8	9	1	5	4	7	3	6
7	1	5	9	3	6	2	8	4
3	4	6	7	2	8	9	5	1
1	5	2	4	6	9	8	7	3
4	6	7	2	8	3	5	1	9
9	3	8	5	1	7	4	6	2

6. SYMMETRICAL SUDOKU (36 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column, an outlined 3x3 square or two main diagonals. The layout of both even and odd digits must be line symmetrical about the main diagonals.



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

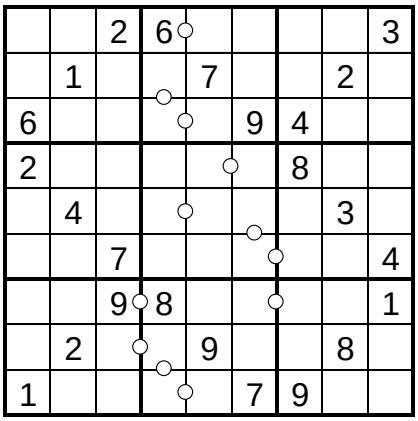
7. GREATER THAN SUDOKU (55 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is an inequality sign between a pair of orthogonally adjacent cells, the numbers in these cells must be placed according to the given sign.



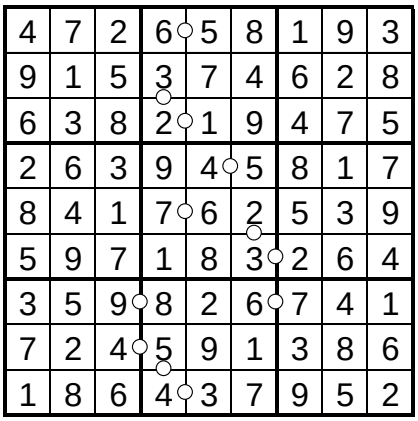
1	<	7	>	6	4	5	2	9	3	8
8		3		2	6	1	9	5	4	7
4		5	<	9	3	7	8	2	6	1
3		6	>	1	8	4	5	7	< 9 >	2
2		9		5	7	3	1	4	8	6
7	>	4	<	8	9	2	6	3	1	5
5		2		4	1	6	3	8	7	9
9		1		3	2	8	7	6	5	4
6		8		7	5	9	4	1	< 2 <	3

8. CONSECUTIVE SUDOKU (64 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then these cells must contain numbers whose difference is exactly one. All possible dots have been given.



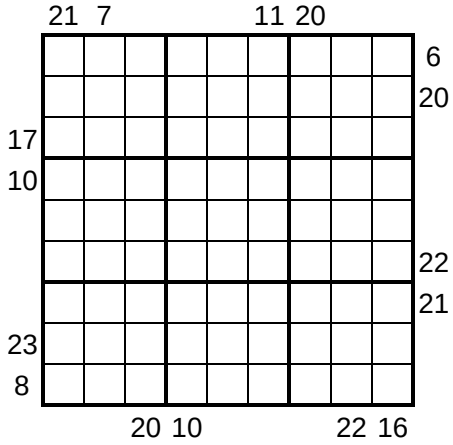
		2	6					3
	1			7			2	
6					9	4		
2						8		
	4						3	
		7						4
		9	8					1
	2			9			8	
1					7	9		



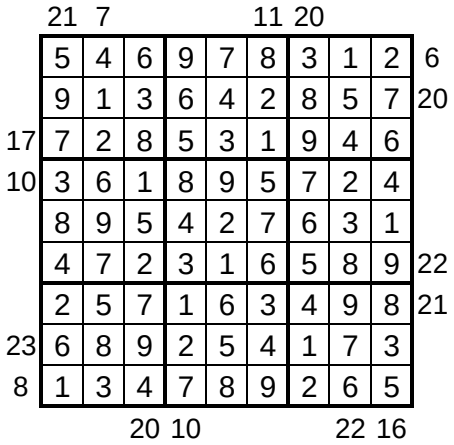
4	7	2	6	5	8	1	9	3
9	1	5	3	7	4	6	2	8
6	3	8	2	1	9	4	7	5
2	6	3	9	4	5	8	1	7
8	4	1	7	6	2	5	3	9
5	9	7	1	8	3	2	6	4
3	5	9	8	2	6	7	4	1
7	2	4	5	9	1	3	8	6
1	8	6	4	3	7	9	5	2

9. OUTSIDE SUMS SUDOKU (111 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The numbers outside the grid indicate the sum of first three digits in the corresponding row or column.



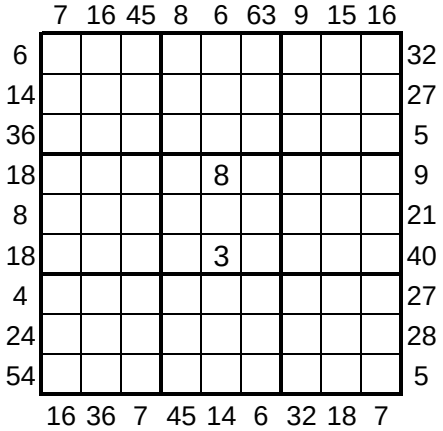
	21	7				11	20		
									6
									20
17									
10									
									22
									21
23									
8									
		20	10			22	16		



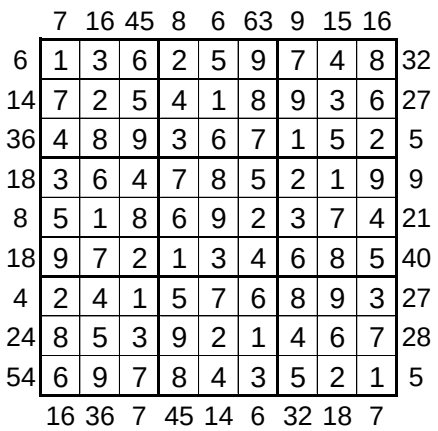
	21	7				11	20		
	5	4	6	9	7	8	3	1	2	6
	9	1	3	6	4	2	8	5	7	20
17	7	2	8	5	3	1	9	4	6	
10	3	6	1	8	9	5	7	2	4	
	8	9	5	4	2	7	6	3	1	
	4	7	2	3	1	6	5	8	9	22
	2	5	7	1	6	3	4	9	8	21
23	6	8	9	2	5	4	1	7	3	
8	1	3	4	7	8	9	2	6	5	
		20	10			22	16		

10. MINMAX PRODUCT SUDOKU (53 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The numbers outside the grid indicate the product of the smallest and the biggest number placed in the first three cells in the corresponding direction.



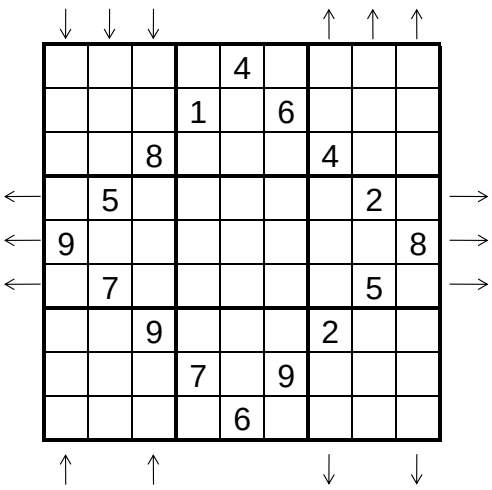
	7	16	45	8	6	63	9	15	16	
6										32
14										27
36										5
18					8					9
8										21
18					3					40
4										27
24										28
54										5
	16	36	7	45	14	6	32	18	7	

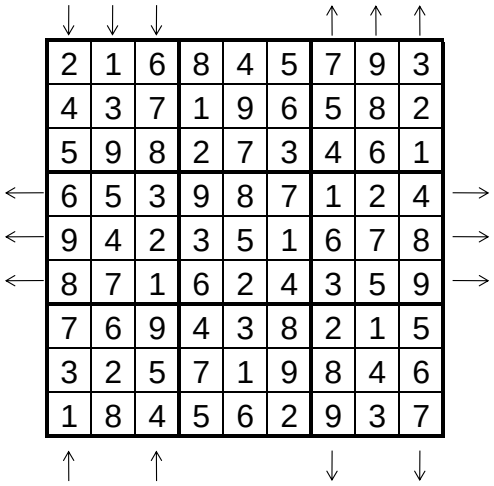


	7	16	45	8	6	63	9	15	16	
6	1	3	6	2	5	9	7	4	8	32
14	7	2	5	4	1	8	9	3	6	27
36	4	8	9	3	6	7	1	5	2	5
18	3	6	4	7	8	5	2	1	9	9
8	5	1	8	6	9	2	3	7	4	21
18	9	7	2	1	3	4	6	8	5	40
4	2	4	1	5	7	6	8	9	3	27
24	8	5	3	9	2	1	4	6	7	28
54	6	9	7	8	4	3	5	2	1	5
	16	36	7	45	14	6	32	18	7	

11. ROSSINI SUDOKU (47 points)

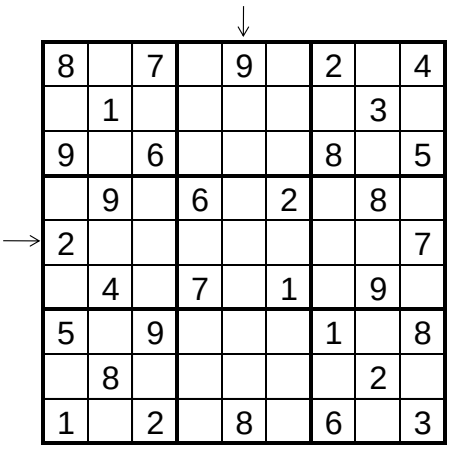
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is an arrow outside the grid, the first three numbers in the corresponding direction must be placed in an increasing order in the direction of the arrow. All possible arrows have been given.

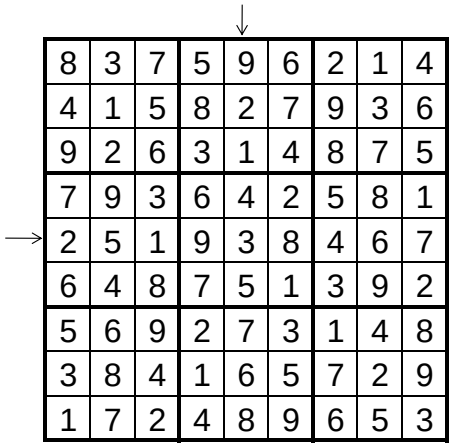




12. MULTIPLES SUDOKU (77 points)

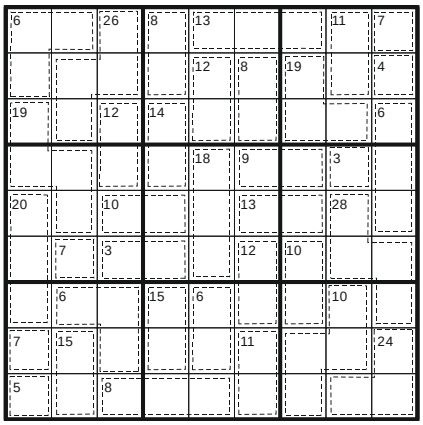
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If a row or a column is marked with an arrow, the 9-digit number in the corresponding row or column read from top to bottom or from left to right must be divisible by 11. All possible arrows have been given.

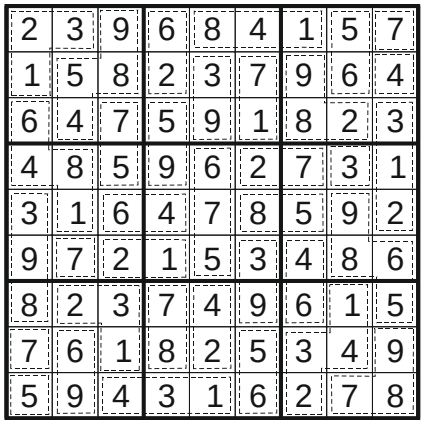




13. KILLER SUDOKU (126 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Number in the top-left corner of each of the cages (small regions) indicates the sum of all the numbers within the cage. Numbers must not be repeated within any cage.





14. STAR PRODUCT SUDOKU (98 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The numbers outside the grid indicate the product of the numbers placed in the cells with stars in the corresponding row or column.

	18	48	8	45	135	16	21	224	36
27				8		1			
80									
7									
18	4								7
72									
40	2								1
24									
252									
24				3		5			

	18	48	8	45	135	16	21	224	36
27	3	5	6	8	7	1	4	2	9
80	7	2	4	6	5	9	1	8	3
7	9	8	1	4	2	3	7	5	6
18	4	1	5	9	6	2	8	3	7
72	8	6	9	1	3	7	2	4	5
40	2	3	7	5	4	8	6	9	1
24	5	9	8	7	1	4	3	6	2
252	1	4	3	2	9	6	5	7	8
24	6	7	2	3	8	5	9	1	4

15. COMBINED SUDOKU 1 (110 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the main diagonals must also contain each of the numbers 1-9 exactly once. Shaded cells must contain odd numbers. No two cells containing the same digits can share corners.

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

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

16. COMBINED SUDOKU 2 (99 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the shaded 3x3 squares must also contain each of the numbers 1-9 exactly once. Each of the line in the grid represents a palindrome – the same sequence of numbers must be read along the palindrome from both ends. If there is an inequality sign between a pair of orthogonally adjacent cells, the numbers in these cells must be placed according to the given sign.

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

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

Round 12 – GAPPY CLASSICS

Individual

Tuesday 18th October 2016, 11:30 – 12:00
30 minutes – 5 puzzles – 250 points

There are 5 classic sudoku puzzles in this round. Some of the cells have been cut out. The task is to rearrange the five grids and place them on top of each other in such an order that numbers seen through the holes from the grids placed lower fit into the solution. The position of the lowest grid is fixed and marked. There are no holes in the lowest grid.

There is only one way how to place the puzzles at each other and obtain a valid solution. Therefore, only partial solutions corresponding to this solution will be awarded points, even if some of the individual puzzles can have multiple solutions (but only one of them does not prevent the whole round to be solved correctly).

Points distribution:

1 correctly solved puzzle .....100 points
2 correctly solved puzzles.....160 points
3 correctly solved puzzles.....200 points
4 correctly solved puzzles.....230 points
5 correctly solved puzzles.....250 points

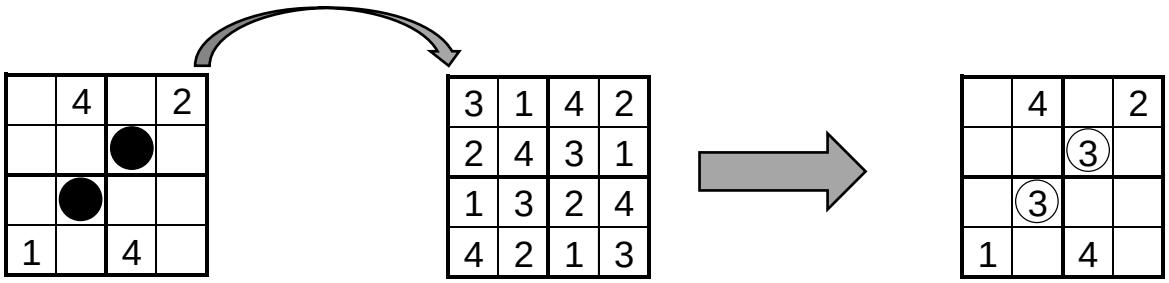
1. – 5. CLASSIC SUDOKU

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

	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

The example of placing puzzles on top of each other:



Round 13 – OLD MAID

Team

Tuesday 18th October 2016, 13:45 – 14:30
45 minutes – 25 puzzles – 2500 points

A	Classic Sudoku	65 points
B	Classic Sudoku	25 points
C	Classic Sudoku	111 points
D	Classic Sudoku	50 points
E	Classic Sudoku	35 points
F	Diagonal Sudoku	57 points
G	Consecutive Sudoku	145 points
H	Even Sudoku	16 points
I	Skyscrapers Sudoku	264 points
J	Quadruple Sudoku	65 points
K	Outside Sudoku	89 points
L	Nonconsecutive Sudoku	14 points
M	Nonconsecutive Sudoku	56 points
N	XV Sudoku	32 points
O	Arrow Sudoku	202 points
P	Untouchable Sudoku	97 points
Q	Thermometer Sudoku	29 points
R	Greater Than Sudoku	129 points
S	Windoku	78 points
T	Killer Sudoku	326 points
U	Kropki Sudoku	63 points
V	Irregular Sudoku	132 points
W	Consecutive On-Line Sudoku	212 points
X	Little Killer Sudoku	127 points
Y	Outside Sums Sudoku	81 points

This round contains 25 puzzles. There are exactly 12 pairs of puzzles which have the same solutions. The remaining puzzle does not have a matching puzzle. There is only one way to organize the puzzles into 12 pairs and one puzzle which satisfies this condition. Therefore, the points for a puzzle will be awarded only if its solution is a part of this solution. Even if it is possible to pair two puzzles and find a solution for this partial puzzle, it would prevent the rest of the puzzles to be paired up properly, therefore no points will be awarded in such cases.
It is a part of a solution to discover which pairs of puzzles have the same solutions and which puzzle does not have a pair. As the separate puzzles might have more solutions, it is crucial to discover the correct pairs. A table of all the puzzles will be provided (as shown in the example).

In order to be awarded points for the pair of matching puzzles, it is only needed to solve one of the puzzles correctly. In this case, points for both puzzles of the pair will be awarded to a team. It is not needed to mark the correct pairings in the table, nor write anything in the second of the pair of the puzzles, provided the other one is solved correctly.

E.g. if puzzles A (20 points) and B (30 points) form a pair and competitor solves either of them, 50 points will be awarded. The sum of the points of two matching puzzles reflects the difficulty of the pair compared to the other puzzles in the set, not the difficulty of puzzle parts (i.e. B is not necessarily more difficult than A).

From the following 3 puzzles, sudoku B and sudoku C have the same solutions and make a pair, while sudoku A is an Old Maid.

.

A:

	4		2
		3	
	3		
1		4	

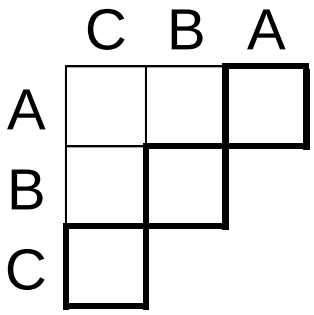
B:

	1		2
2			
			4
4		1	

C:

3			2
	4		
		2	
4			3

Below is an example of the table of the puzzles which will be provided in this round.



A – E CLASSIC SUDOKU (65 + 25 + 111 + 50 + 35 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 region.

	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

F DIAGONAL SUDOKU (57 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the main diagonals must also contain each of the numbers 1-9 exactly once.

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

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

G CONSECUTIVE SUDOKU (145 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. All possible dots have been given.

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

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

H EVEN SUDOKU (16 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Shaded cells must contain even numbers.

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

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

I SKYSCRAPERS SUDOKU (264 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each number N inside the grid represents an N-storey skyscraper. Numbers outside the grid indicate how many skyscrapers are visible in the corresponding direction. Higher skyscrapers block the view of the lower ones.

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

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

J QUADRUPLE SUDOKU (65 points)

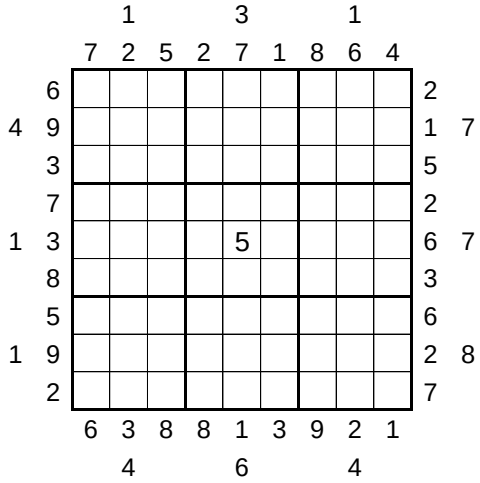
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each set of small numbers at the intersection of four adjacent cells must appear in those respective cells, in any order.

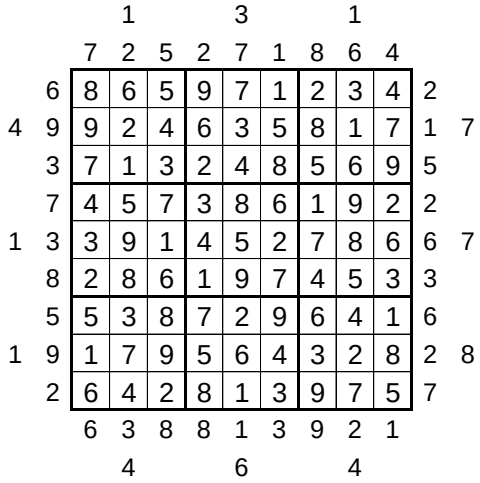
	5789			1568			2349	
	2566						2478	
				2679				
8								3
	3478						4569	
				1288		1346		
	2479						1267	
				4				

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

K OUTSIDE SUDOKU (89 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid must be placed in the first three cells in the corresponding direction.





L – M NONCONSECUTIVE SUDOKU (14 + 56 points)

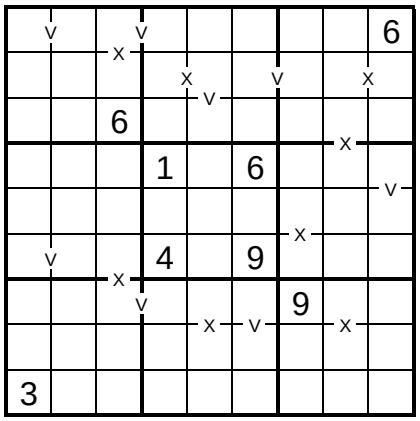
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in orthogonally adjacent cells must not be consecutive, i.e. the difference of numbers in each two orthogonally adjacent cells must be at least 2.

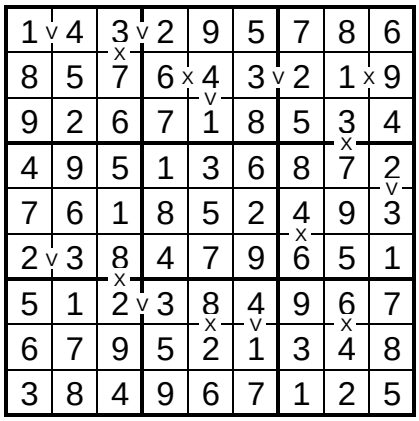
3					6	9		
6							8	
					3			6
	1				7			
		2				8		
			2				1	
2			6					
	9							2
		1	3					5

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

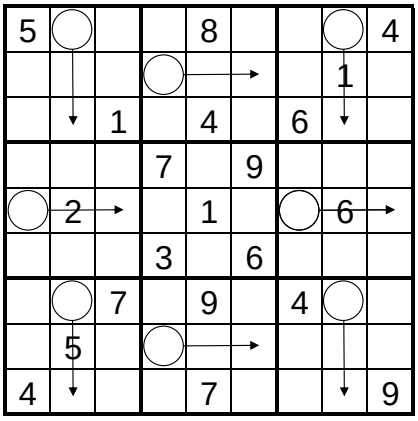
N XV SUDOKU (32 points)

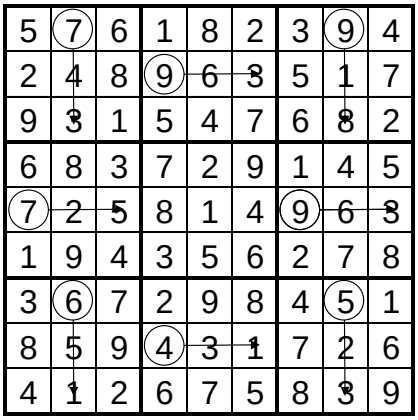
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If a pair of orthogonally adjacent cells has X between them, the sum of the numbers placed in these cells must be exactly 10. If a pair of orthogonally adjacent cells has V between them, the sum of the numbers placed in these cells must be exactly 5. All possible signs have been given.



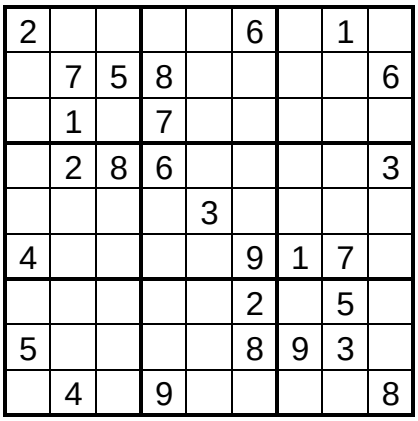


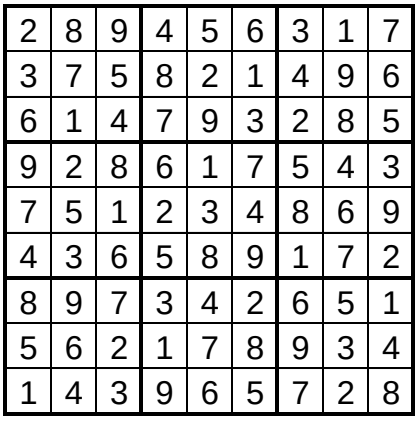
O ARROW SUDOKU (202 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Number in the circle of an arrow indicates the sum of the numbers placed in the cells along the path of the arrow.



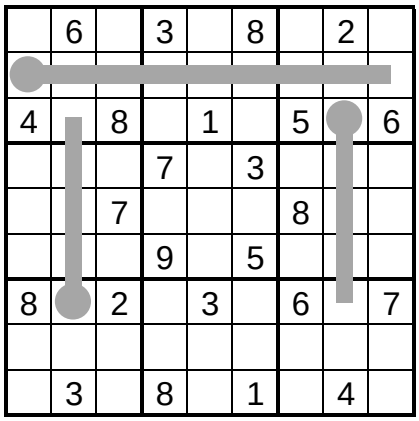


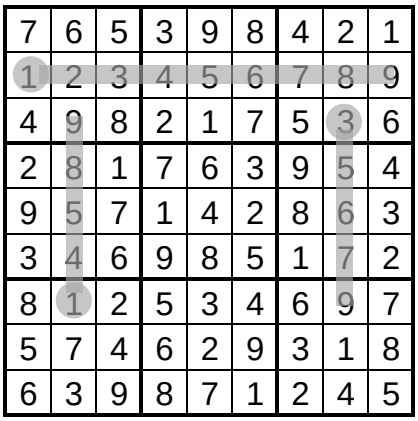
P UNTOUCHABLE SUDOKU (97 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in diagonally adjacent cells must be different.





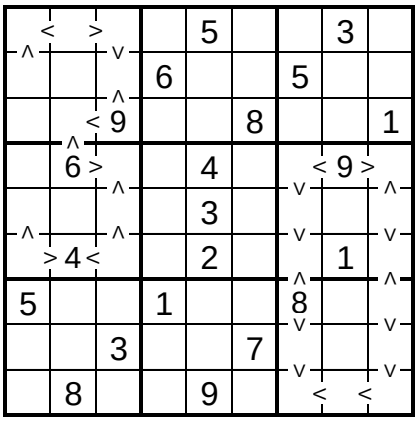
Q THERMOMETER SUDOKU (29 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in each thermometer must be in strictly increasing order, starting from the thermometer's bulb to its flat end.

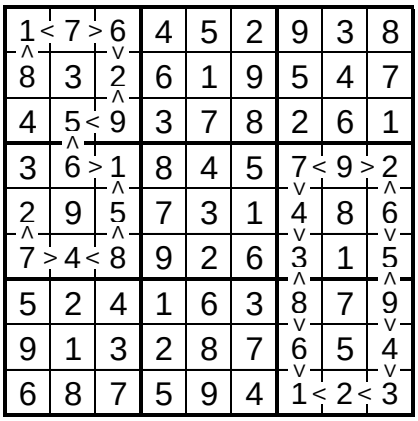




R GREATER THAN SUDOKU (129 points)

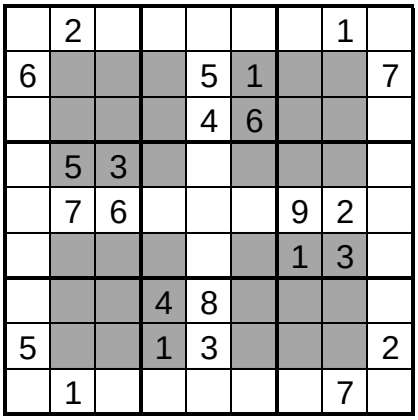
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is an inequality sign between a pair of orthogonally adjacent cells, the numbers in these cells must be placed according to the given sign.

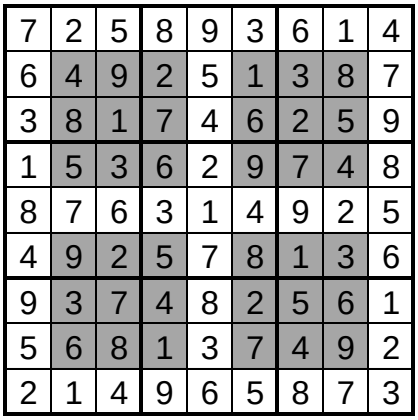




S WINDOKU (78 points)

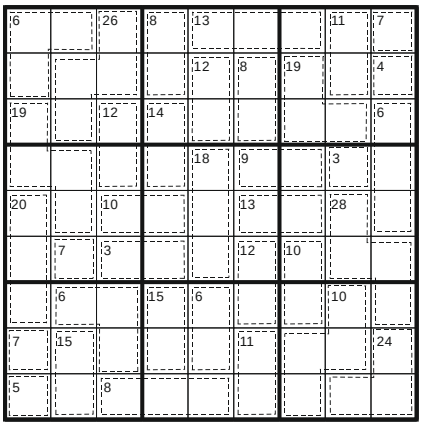
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the shaded 3x3 squares must also contain each of the numbers 1-9 exactly once.

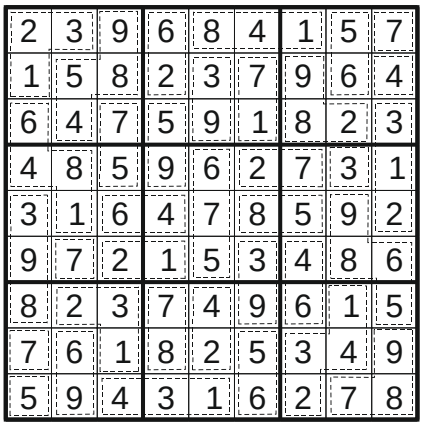




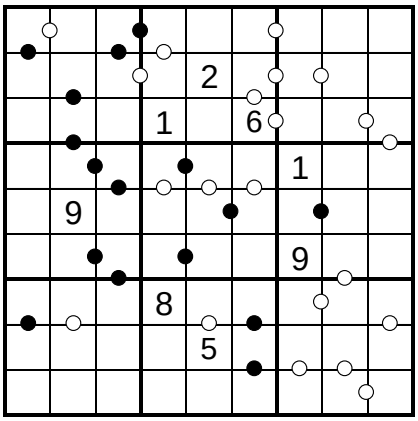
T KILLER SUDOKU (326 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Some areas of cells have been outlined to form small cages. Number in the top-left corner of each of such cages indicates the sum of all the numbers within the cage. Numbers must not be repeated within any cage.



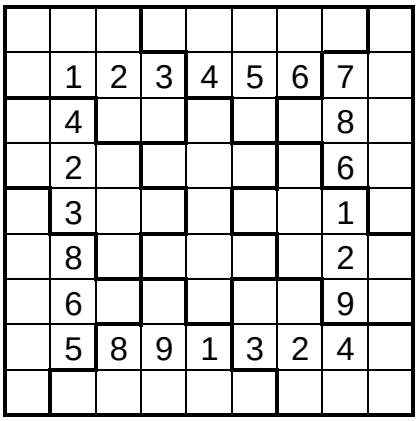


U KROPKI SUDOKU (63 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. If there is a black dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose quotient is exactly two. There can be either black or white dot between 1 and 2. All possible dots have been given.



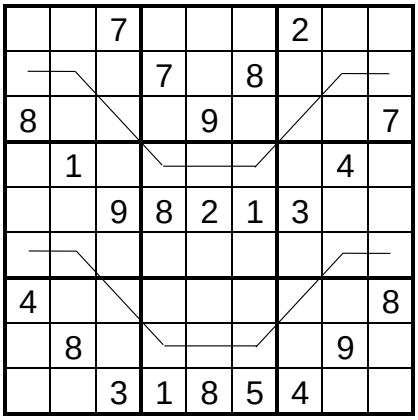
6	5	8	4	9	3	2	7	1
3	1	4	5	2	7	8	9	6
9	2	7	1	8	6	5	3	4
7	4	2	6	3	9	1	8	5
5	9	1	7	4	8	3	6	2
8	3	6	2	1	5	9	4	7
2	7	3	8	6	1	4	5	9
4	6	9	3	5	2	7	1	8
1	8	5	9	7	4	6	2	3

V IRREGULAR SUDOKU (132 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined region.



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

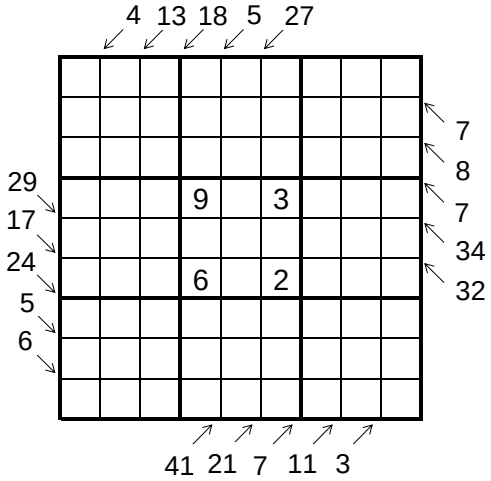
W CONSECUTIVE ON-LINE SUDOKU (212 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The difference of each pair of adjacent numbers along the marked lines must be exactly one.

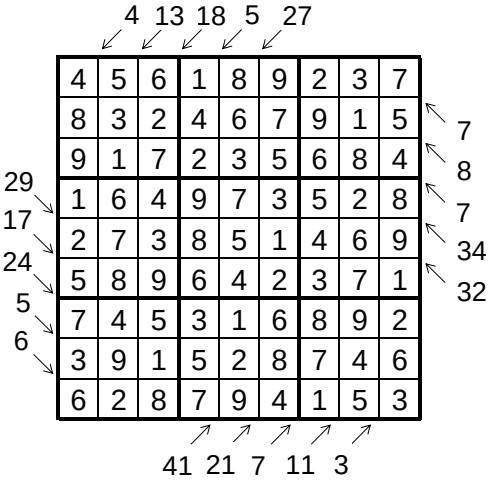


1	9	7	6	5	4	2	8	3
2	3	6	7	1	8	9	5	4
8	5	4	2	9	3	6	1	7
3	1	2	5	6	7	8	4	9
5	4	9	8	2	1	3	7	6
7	6	8	3	4	9	5	2	1
4	2	5	9	7	6	1	3	8
6	8	1	4	3	2	7	9	5
9	7	3	1	8	5	4	6	2

X LITTLE KILLER SUDOKU (127 points)

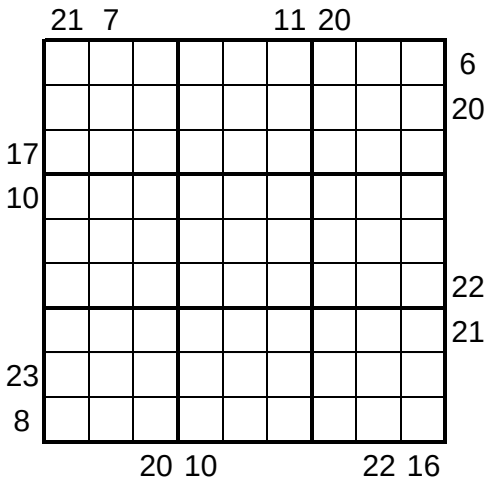
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid indicate the sum of all the numbers placed in the cells in the corresponding diagonal direction.

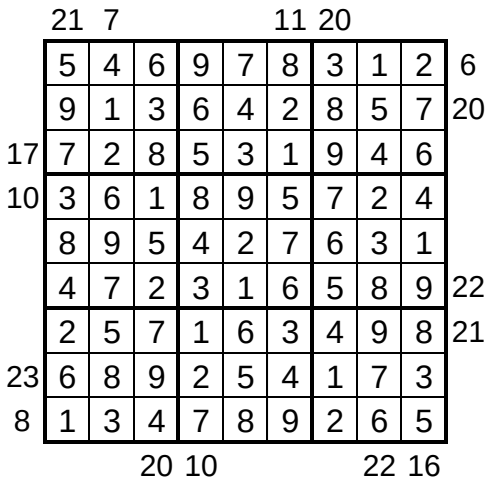




Y OUTSIDE SUMS SUDOKU (81 points)

Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid indicate the sum of the numbers placed in the first three cells in the corresponding direction.





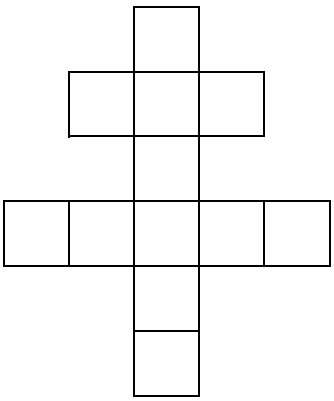
Round 14 – DOUBLE CROSS

Team

Tuesday 18th October 2016, 14:45 – 15:10
25 minutes – 12 puzzles – 1020 points

1. Antiknight Sudoku ..... 85 points
2. Classic Sudoku ..... 85 points
3. Consecutive Sudoku ..... 85 points
4. Fortress Sudoku ..... 85 points
5. Killer Sudoku ..... 85 points
6. Multidiagonal Sudoku ..... 85 points
7. No 10 Sudoku ..... 85 points
8. Tens Position Product ..... 85 points
9. Product Killer Sudoku ..... 85 points
10. Target Sum Sudoku ..... 85 points
11. Untouchable Sudoku ..... 85 points
12. XV Sudoku ..... 85 points

This round contains 12 linked puzzles 9x9 which are arranged into a shape of a Slovak Double Cross.



Each pair of adjacent grids shares a row or a column which has to be filled accordingly in both grids.

The shape of the puzzle is given and shown next to the instructions. Following is the list of all the puzzles used in this round. The actual layout of the puzzles will be revealed in the competition round.

Below is an example of two adjacent grids, which share a column.

	4					
		3			2	
	3				1	
1		4				

3	4	2	1	2	3	4
2	1	3	4	3	2	1
4	3	1	2	4	1	3
1	2	4	3	1	4	2

1. ANTIKNIGHT SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in cells related by a chess Knight's move (2+1 cells in any orthogonal direction) must be different.

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

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

2. CLASSIC SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

	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

3. CONSECUTIVE SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. All possible dots have been given.

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

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

4. FORTRESS SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in gray cells must be greater than all the numbers placed in the orthogonally adjacent white cells.

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

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

5. KILLER SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Some areas of cells have been outlined to form small cages. Number in the top-left corner of each of such cages indicates the sum of all the numbers within the cage. Numbers must not be repeated within any cage.

6		26	8	13			11	7
				12	8	19		4
19		12	14					6
				18	9		3	
20		10			13		28	
	7	3			12	10		
	6		15	6			10	
7	15				11			24
5		8						

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

6. MULTIDIAGONAL SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers must not be repeated along any of the marked diagonals.

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

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

7. NO 10 SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The sum of two numbers placed in orthogonally adjacent cells must never be 10.

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

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

8. TENS POSITION PRODUCT (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Number between a pair of adjacent cell indicates the number in the tens position of the product of the numbers placed in these cells (e.g. if 3 and 4 are placed in the cells, their product is 12 and the clue would be 1).

3		3		6		2	4	
	7		2		3	2		
0		0		5	2		6	
9	4			0		1		3
0			5				2	
4	2		1		3	0		5
1		2		1	3		2	
	0		3		9	4		
2		9		4		1	3	

7 3	5	3	1	9 6	4	2	8 4	6
6	9 7	8	2	7	3	4 2	5	1
2 0	4	1 0	6	5	8 2	3	9 6	7
9	8 4	5	7 5	4 0	1	6 1	2	3
1 0	6	2	8	3	5 3	9	7 2	4
4	3 2	7	9 1	2	6	8 0	1	5
8 1	2	6 2	4	1	7 3	5	3 2	9
5	1 0	4	3	8 4	9	7 4	6	2
3 2	7	9	5	6	2	1	4 3	8

9. PRODUCT KILLER SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Some areas of cells have been outlined to form small cages. Number in the top-left corner of each of such cages indicates the product of all the numbers within the cage. Numbers must not be repeated within any cage.

15	32	9		54		1		21
	4	2	8		5	10	6	
6				1				9
	5			8			1	
21		8	45		8	6	10	
	1						3	
1		15		5		32		6
32	6		2	24	9		14 7	5
		7				3		

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

10. TARGET SUM SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The sum of all numbers placed in the shaded cells within an outlined 3x3 square must be equal for every square. It is a part of the solution to reveal the sum.

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

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

11. UNTOUCHABLE SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in diagonally adjacent cells must be different.

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

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

12. XV SUDOKU (85 points)
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. 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.

								6
		6						
			1		6			
			4		9			
						9		
3								

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

Play-offs

Under 18

1. CONSECUTIVE ON-LINE SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The difference of each pair of adjacent numbers along the marked lines must be exactly one.

2. TARGET SUM SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The sum of all numbers placed in the shaded cells within an outlined 3x3 square must be equal for every square. It is a part of the solution to reveal the sum.

3. CLASSIC SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

Over 50

1. ARROW SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Number in the circle of an arrow indicates the sum of the numbers placed in the cells along the path of the arrow.

2. PALINDROME SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some lines marked in the grid. All of them are palindromes, i.e. the sequence of the numbers placed in the cells along the line is identical when read from either direction of the line.

3. CLASSIC SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

Finals – Round 1

1. CLASSIC SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

2. NONCONSECUTIVE SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in orthogonally adjacent cells must not be consecutive, i.e. the difference of numbers placed in each two orthogonally adjacent cells must be at least 2.

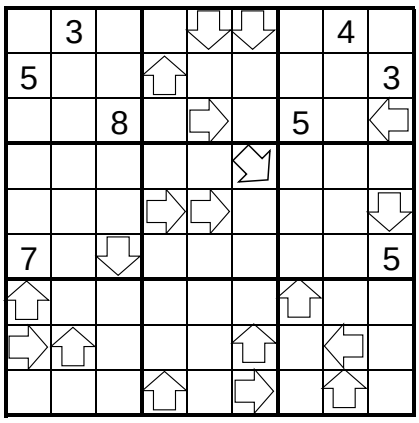
3. KILLER SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Some areas of cells have been outlined to form small cages. Number in the top-left corner of each of such cages indicates the sum of all the numbers within the cage. Numbers must not be repeated within any cage.

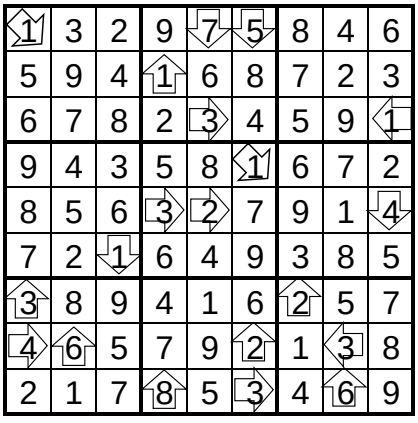
4. PALINDROME SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The lines marked in the grid are palindromes, i.e. the sequence of the numbers placed in the cells along the line is identical when read from either direction of the line.

5. PARITY SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. All numbers placed in the cells belonging to the same diagonal line must be of the same parity.

6. GREATER THAN SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is an inequality sign between a pair of orthogonally adjacent cells, the numbers in these cells must be placed according to the given sign.

7. SEARCH 9 SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. If there is an arrow in a cell, the number placed in this cell must be equal to the distance to number 9 in the direction of the arrow.





8. NEIGHBOURS SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid must be placed in the adjacent cells in the corresponding row or column, in the given order.

Finals – Round 2

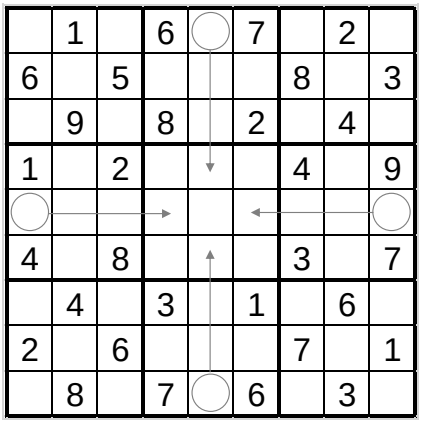
1. CLASSIC SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

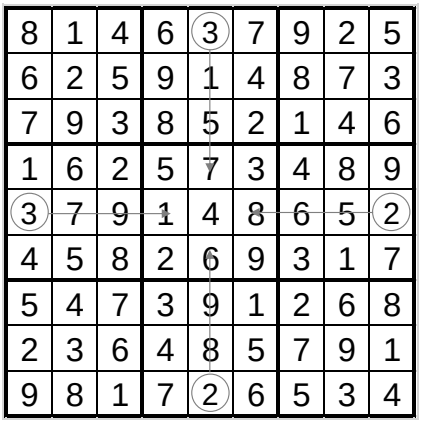
2. EXTRA REGION SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the shaded regions must also contain each of the numbers 1-9 exactly once.

3. ARROW SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Number in the circle of an arrow indicates the sum of the numbers placed in the cells along the path of the arrow.

4. MULTIDIAGONAL SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers must not be repeated along any of the marked diagonals.

5. ARROW PARITY SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. When number in the circle of an arrow is odd, it indicates how many odd numbers are placed in the cells along the path of the arrow. When number in the circle of an arrow is even, it indicates how many even numbers are placed in the cells along the path of the arrow.





6. TENS POSITION PRODUCT SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Number between a pair of adjacent cell indicates the number in the tens position of the product of the numbers placed in these cells (e.g. if 3 and 4 are placed in the cells, their product is 12 and the clue would be 1).

7. TWIN DETECTOR SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Wherever the number in the cell equals to a total of any amount of the closest numbers in any direction there is an arrow pointing to that direction.

8. DIGITAL SUDOKU
Fill in the whole grid with numbers from 1 to 8 so that no digit is repeated within a row, a column or an outlined 2x4 rectangle. Some parts of the digits have been already given. You may use either digital, or Arabian numbers while solving, but it must be consistent within the whole grid.

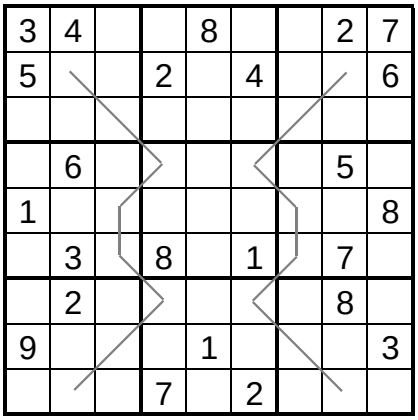
Finals – Round 3

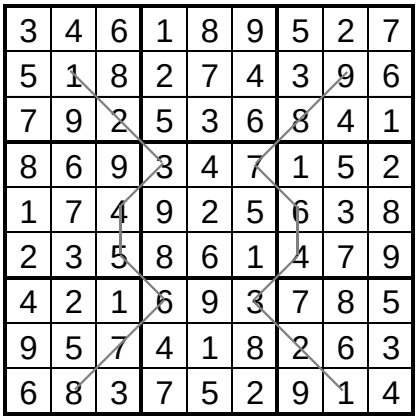
1. CLASSIC SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square.

2. IRREGULAR SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined region.

3. LITTLE KILLER SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers outside the grid indicate the sum of all the numbers placed in the cells in the corresponding diagonal direction.

4. INCREASING SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Numbers placed in the cells belonging to the same line must form a strictly increasing sequence (not necessarily arithmetic).





5. SYMMETRICAL SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column, an outlined 3x3 square or two main diagonals. The layout of both even and odd digits must be line symmetrical about the main diagonals.

6. STAR PRODUCT SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. The numbers outside the grid indicate the product of the numbers placed in the cells with stars in the corresponding row or column.

7. POINT TO NEXT SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. There are some arrows placed in the grid. If number N is placed in the cell with an arrow then number N+1 must appear in one of the cells in the direction of the arrow.

8. PENCILMARK SUDOKU
Fill in the whole grid with numbers from 1 to 9 so that no digit is repeated within a row, a column or an outlined 3x3 square. Each of the cells contains a set of numbers. The number placed in each cell must always be one of the numbers in the set. You can either circle the correct number or write one by yourself but it must be consistent in the whole grid.

Team play-off

Individual puzzles:

Team Member A

Exclusion Sudoku
Little Killer Sudoku

Team Member B

Antidiagonal Sudoku
Capsules Sudoku

Team Member C

Classic Sudoku
Classic Sudoku

Team Member D

Untouchable Sudoku
Fortress Sudoku

Team puzzle – Sudoku Samurai:

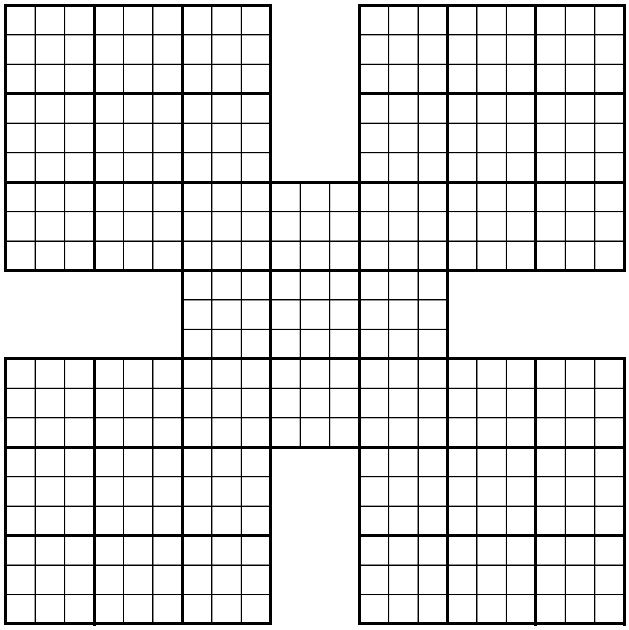
Middle puzzle – Classic Sudoku

Corner A – Odd Sudoku

Corner B – Diagonal Sudoku

Corner C – Killer Sudoku

Corner D – Irregular Sudoku



Sudoku Samurai layout