Instructions Booklet

12th WSC
INDIA 2017

v1 on 2017/10/01

MONDAY, 16th OCTOBER

Session 1

1. Welcome	9:00 - 9:40	40m	400 points	Individual
2. The Duets	9:50 - 11:20	90m	1000 points	Individual
3. Two To Tango	11:35 - 12:10	35m	400 points	Individual
4. Where Is It?	12:20 - 12:40	20m	120 points	Individual

Session 2

5. The Originals	14:10 - 14:40	30m	350 points	Individual
6. Think Different	14:50 - 15:40	50m	500 points	Individual
7. Is It A Sudoku?	15:50 - 16:25	35m	350 points	Individual
8. Yours Or Mine	16:45 - 17:15	30m	1200 points	Team
9. Dress Them Up	17:30 - 18:05	35m	1400 points	Team
10. The Big Choice	18:15 - 18:40	25m	1000 points	Team

TUESDAY, 17th OCTOBER

Session 3

11. All In One	9:00 - 9:25	25m	250 points	Individual
12. What Is It?	9:35 - 10:25	50m	500 points	Individual
13. The Joker	10:40 - 11:30	50m	600 points	Individual
14. The Usual Suspects	11:40 - 12:25	45m	500 points	Individual

Session 4

15. Along The Edges	14:00 - 14:30	30m	250 points	Individual
16. Don't Blink	14:50 - 15:10	20m	150 points	Individual
17. Sixers	15:30 - 16:15	45m	1800 points	Team
18. The Journey	16:35 - 17:20	45m	1800 points	Team

1. Each competitor has to sit at any of the pre-allocated desks of their respective teams in individual rounds. Teams have to work at their pre-allocated desks 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 must clearly write their name, team and registration number on the front page 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.

4. Competitors must not open their booklets before the official start of the round. 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 remain silent, unless declaring completion of a round.

6. During team rounds, team members may talk to each other, unless it is stated otherwise in the round's note, but should do this with respect to other teams.

7. To declare a round complete, a competitor must close the competition booklet, clearly state 'finished' and raise an arm with the booklet. The competitor's arm must be raised until the booklet is collected. The same rules apply for the team rounds.

8. Competitors or teams who complete a round more than five minutes in advance, are allowed to leave the competition hall quietly. Competitors or teams who complete a round with five minutes or less left are not allowed to leave their desks to not cause unnecessary disruption to fellow competitors.

9. Competitors who leave the competition hall for any reason will be not allowed to continue in that round.

10. When the signal to finish a 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.

11. At the end of a round, competitors have to remain seated until all booklets have been collected.

12. Mobile phones and electronic devices are not permitted to be used in the competition hall during the rounds. The devices have to be turned off and must not be placed on the competitor's desk.

13. 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.

14. Competitors may not use cameras or other recording devices during rounds. Only 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.

15. 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.

16. Puzzles can be completed in any order within a round, unless it is stated otherwise in the round's note. 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.

17. The boxes above each puzzle are reserved for markers' notes. Competitors must not write in the boxes.

18. Permitted items which can be used in the competition hall, unless stated otherwise, are: pens, pencils, pencil sharpeners, erasers, rulers, scales, blank papers and instruction booklets annotated with notes regarding puzzle instructions and preparation notes.

19. Drinks and snacks are permitted as long as they do not disturb other competitors with a strong smell or rustling packet.

20. It is strictly forbidden to use electronic devices such as music players or headphones or any type of calculator. Use of such equipment may lead to the disqualification of the competitor.

21. 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.

22. When a round has been evaluated, fully marked booklets are returned to a team member of the respective country.

23. In case of any query after a booklet has been returned to a competitor, the query must be raised within the specified time. The booklet should be left with the organizers for investigation.

24. Puzzles may be photographed during the marking phase in order to prevent subsequent interventions.

25. Team captains are responsible for ensuring that any information given to them related to the competition is effectively relayed to their team.

26. 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 schedule, or by not rewarding any points for it to any of the competitors.

27. The official competition booklets will not contain examples given in the instruction booklet. Therefore, we recommend to bring the Instruction Booklet, which contains an example of every Sudoku that will be part of the championship.

28. In the team rounds, the official competition booklets may not contain the instructions of Sudokus, only the names. It is advised to bring at least one Instruction Booklet for a team for these rounds.

29. In any case of inconsistency between the instruction booklet and the official competition booklets, e.g. instructions or points, the information in the final version of the instruction booklet will be considered valid.

30. In the competition hall, a timer counting down to the end of the round will be visible for all the competitors.

Scoring and Bonuses

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

2. In individual rounds, the bonus points for a round for each full remaining minute will be awarded to any competitor who correctly solves all the Sudokus in the round.

3. In team rounds, the bonus points for a round for each full remaining minute will be awarded to any team who correctly solves all the Sudokus in the round.

4. At the judge's discretion, 0.8x bonus, rounded to the closest integer, will be awarded in the case of a single minor mistake in no more than one Sudoku. A minor mistake is considered as at most two incorrectly filled cells in at most one of the Sudokus.

All the examples in the instruction booklet were made by the organizing team. Some examples have been taken from the Puzzle Innovation Contest. They cannot be commercially used. All rights have been reserved.

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.

Any breach of these rules may lead to a competitor or team being disqualified from the round or competition.

The decision of the tournament directors is final.

Glossary

Odd and Even
Odd digits are 1, 3, 5, 7, 9.
Even digits are 2, 4, 6, 8.

Parity
Even and odd are different parities. Two digits have the same parity if they are both even or both odd.

Adjacent and Neighbouring
Cells sharing an edge are adjcent. A cell can have a maximum of four adjacent cells.
Cells sharing an edge or a corner are neighbouring. A cell can have a maximum of eight neighbouring cells.

mxn box
A mxn box is a box with 'm' rows and 'n' columns.

Touching
Digits that share an edge or a corner touch each other.

Knight
A knight, as in chess, moves two steps in one direction and one step in a perpendicular direction.

Identical digits
Identical digits are digits that are exactly the same.

Cage
Cages are areas marked with a dashed line within a grid.

Consecutive
Two digits are consecutive if their difference is 1.

Arithmetic progression
A sequence of digits are in arithmetic progression if every consecutive pair of digits in the sequence have the same difference. The difference cannot be 0.

Checkerboard
A checkerboard pattern is a 2x2 area of cells where the top-left and bottom-right cells are of one type and the top-right and bottom-left cells are of another type.

Partial Points
For Sudokus with partial points, the points will be awarded only if it is part of the overall solution.

The grid size and the shading of majority of the puzzles in the competition booklets will be as displayed in the image on the right.

01 WELCOME

400 Points | **40 Minutes** | **10x Bonus** | Individual

Round Note: This round has 6 variant Sudokus and 6 classic Sudokus.

1. Coded Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Some digits have been substituted by letters. All instances of the same letter must be substituted by the same digit and different letters must be substituted by different digits.

2, 4, 6, 8, 10, 12. Classic Sudoku

15, 20, 15, 20, 15, 15 Points

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

3. Curvy Renban Sudoku

70 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each line contains a set of distinct consecutive digits.

5. 12 Sum / Product Sudoku

30 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Adjacent cells with a dot implies either the sum or the product of the digits in those two cells is 12. Not all possible dots are marked.

7. Killer Sudoku

50 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The number at the top-left corner of each cage equals the sum of digits inside the cage. Digits do not repeat inside a cage.

9. X-Sums Sudoku

45 Points

Place a digit from 1 to 9 into each of the empty cells so that each number outside the grid is the sum of the first X numbers placed in the corresponding direction, where X is equal to the first number placed in that direction.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. A cell with an alphabet contains a digit whose mapped word contains the corresponding alphabet.

1 : ONE
2 : TWO
3 : THREE
4 : FOUR
5 : FIVE
6 : SIX
7 : SEVEN
8 : EIGHT
9 : NINE

Puzzle grid (letter clues):

H				F		R		
R	F		I	O		O	S	
				S				
S								V
N		T	H	R	E	E		V
N								N
			S				N	
	F			F		O	S	
V	T			V				

Solution grid:

H8	1	6	7	F4	2	R3	5	9
R4	F5	7	I9	O1	3	O2	S6	8
2	9	3	5	S6	8	7	1	4
S7	3	4	1	9	6	8	2	V5
N1	6	T2	H8	R3	E5	E9	4	V7
N9	8	5	4	2	7	6	3	N1
3	7	1	S6	8	4	5	N9	2
6	F4	8	2	F5	9	O1	S7	3
V5	T2	9	3	V7	1	4	8	6

1000 Points	90 Minutes	10x Bonus	Individual

Round Note: This round has 24 assorted Sudoku variants.

1. Even Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Cells with shaded squares contain even digits.

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

2. Odd Even Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Cells with shaded squares contain even digits. Cells with shaded circles contain odd digits.

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

3. Friends Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Shaded cells across the grid contain identical digits.

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

4. Enemies Sudoku

35 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Shaded cells across the grid contain different digits.

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

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

5. Sequence Sudoku

40 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits along each line form arithmetic progression.

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

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

6. Creasing Sudoku

45 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits along each line are monotonically increasing or decreasing.

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

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits in each corresponding cell in both shaded figures are identical.

8. Consecutive Clone Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits in each corresponding cell in both shaded figures are consecutive.

9. Consecutive Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Adjacent cells marked by a bar contain consecutive digits. All possible bars are marked.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Diagonal cells marked by a bar contain consecutive digits. All possible bars are marked.

Puzzle grid:

		2						
				1				
7						9		
4			3				7	
4					5			
	7							

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each main diagonal contains each digit from 1 to 9.

Puzzle grid:

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

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each main diagonal contains exactly three digits.

Puzzle grid:

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

Solution grid:

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

50 Points

13. XV Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Adjacent cells with digits summing to 5 are marked by V, while those summing to 10 are marked by X. All possible V and X are marked.

40 Points

14. XIVI Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Adjacent cells with digits summing to 6 are marked by VI, while those summing to 11 are marked by XI. All possible VI and XI are marked.

45 Points

15. Inclusion Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit at the intersection of four cells must be present in at least one of those four cells.

16. Exclusion Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit at the intersection of four cells must not be present in any of those four cells.

17. Wheel Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The digits inside each wheel must be located in those four cells in the given order. The wheels can be rotated, but not reflected.

18. Square Wheel Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The digits inside each square wheel must be located in those four cells in the given order. The square wheels can be rotated, but not reflected.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row and column. Each region, except the ones with one cell, contains digits from 1 to 9 at least once.

Puzzle:

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

Solution:

```
1 2 3 4 5 6 7 8 9
6 7 8 9 1 2 3 4 5
8 4 6 5 7 9 1 2 3
9 3 2 1 4 5 6 7 8
2 5 7 3 9 4 8 1 6
7 1 9 6 8 3 4 5 2
5 8 4 2 3 1 9 6 7
4 9 5 8 6 7 2 3 1
3 6 1 7 2 8 5 9 4
```
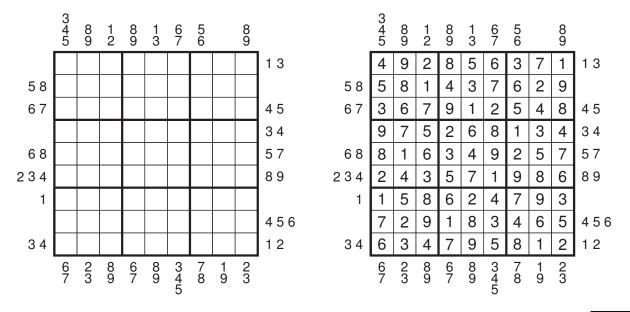
Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row and column. Each region, except the ones with one cell, contains digits from 1 to 9 at most once.

Puzzle:

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

Solution:

```
8 9 7 6 5 4 1 3 2
1 2 3 4 9 5 7 8 6
3 7 6 2 4 9 8 5 1
5 8 9 1 3 6 2 4 7
6 4 5 8 7 1 9 2 3
4 1 2 7 6 3 5 9 8
9 5 8 3 2 7 6 1 4
7 3 1 9 8 2 4 6 5
2 6 4 5 1 8 3 7 9
```
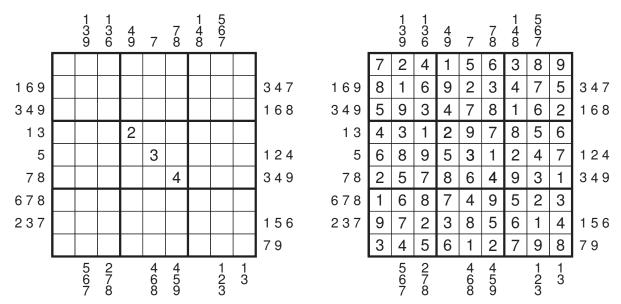
21. Outside Sudoku

30 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit outside the grid appears in one of 1st, 2nd or 3rd cells in corresponding direction.

Right grid solution:

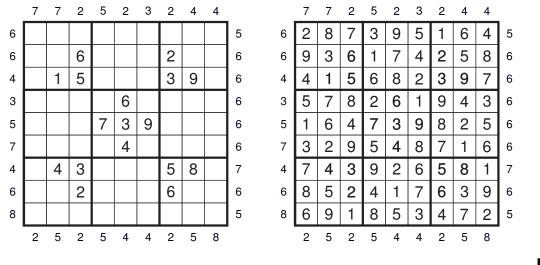| 4	9	2	8	5	6	3	7	1
5	8	1	4	3	7	6	2	9
3	6	7	9	1	2	5	4	8
9	7	5	2	6	8	1	3	4
8	1	6	3	4	9	2	5	7
2	4	3	5	7	1	9	8	6
1	5	8	6	2	4	7	9	3
7	2	9	1	8	3	4	6	5
6	3	4	7	9	5	8	1	2

22. Outside 234 Sudoku

60 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit outside the grid appears in one of 2nd, 3rd or 4th cells in corresponding direction.
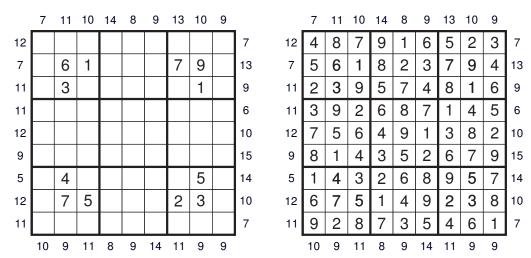
Right grid solution:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each number outside the grid is the difference between the highest and the lowest digit in the first three cells in corresponding direction.

Puzzle grid (outer clues):

Top: 7 7 2 5 2 3 2 4 4
Left: 6 6 4 3 5 7 4 6 8
Right: 5 6 6 6 6 6 7 6 5
Bottom: 2 5 2 5 4 4 2 5 8

Given cells:
- Row 2: 6 (c3), 2 (c6)
- Row 3: 1 (c2), 5 (c3), 3 (c6), 9 (c7)
- Row 4: 6 (c4)
- Row 5: 7 (c4), 3 (c5), 9 (c6)
- Row 6: 4 (c5)
- Row 7: 4 (c2), 3 (c3), 5 (c6), 8 (c7)
- Row 8: 2 (c3), 6 (c6)

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each number outside the grid is the sum of the highest and the lowest digit in the first three cells in corresponding direction.

Puzzle grid (outer clues):

Top: 7 11 10 14 8 9 13 10 9
Left: 12 7 11 11 12 9 5 12 11
Right: 7 13 9 6 10 15 14 10 7
Bottom: 10 9 11 8 9 14 11 9 9

Given cells:
- Row 2: 6 (c2), 1 (c3), 7 (c6), 9 (c7)
- Row 3: 3 (c2), 1 (c6)
- Row 7: 4 (c2), 5 (c7)
- Row 8: 7 (c2), 5 (c3), 2 (c6), 3 (c7)

Solution grid:

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

03 TWO TO TANGO

400 Points   35 Minutes   10x Bonus   Individual

Round Note: This round has 8 Sudokus. Each Sudoku uses rules from two standard variations.

1. Hybrid Sudoku (Arrow + Thermo)

35 Points

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

Arrow Sudoku
The sum of the digits along the path of each arrow equals the digit in the circled cell. Digits may repeat within an arrow shape.

Thermo Sudoku
Some thermometer shapes are placed in the grid. Digits are strictly increasing from the round bulb of the thermometer to each flat end.

2. Hybrid Sudoku (Group Sum + Multi Diagonal)

45 Points

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

Group Sum Sudoku
Each number at the intersection of four cells is the sum of digits in those four cells.

Multi Diagonal Sudoku
Digits do not repeat along the marked diagonals.

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

Consecutive Pairs Sudoku
Adjacent cells marked by a dot contain consecutive digits. Not all possible dots are marked.

Parity Lines Sudoku
Digits along each marked line are either all odd or all even.

Example solution grid (right):

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

Given puzzle grid (left), clues:

·	8	·	·	·	·	·	1	·
3	·	·	·	·	·	·	·	9
·	·	9	·	·	·	·	7	·
9	·	·	·	·	·	·	·	6
·	·	7	·	9	·	·	8	·
6	·	·	·	·	·	·	·	1
·	·	6	·	·	·	·	9	·
8	·	·	·	·	·	·	·	7
·	·	5	·	·	·	·	3	·

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

Quadruple Sudoku
Each digit at the intersection of four cells must be present in one of those four cells.

Pencilmarks Sudoku
Cells with pencilmark digits must contain one of those digits.

Example solution grid (right):

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

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

Palindrome Sudoku
Digits along each line read the same from both directions.

Greater Sudoku
Each digit between two cells is the greater of the digits in those two cells.

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

Exrta Region Sudoku
The connected shaded cells contain each digit from 1 to 9.

Odd Sudoku
Cells with shaded circles contain odd digits.

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

Killer Sudoku
The number at the top-left corner of each cage equals the sum of digits inside the cage. Digits do not repeat inside a cage.

Fortress Sudoku
If a shaded cell and a white cell are adjacent then the digit in the shaded cell is greater.

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

Odd Sum Pair Sudoku
Adjacent cells with a dot implies that the sum of digits in those two cells is odd. Not all dots are marked.

Point To Next Sudoku
If digit 'n' is placed in a cell with an arrow, digit 'n+1' must be placed in one of the cells pointed by the arrow.

04 WHERE IS IT?

| 120 Points | 20 Minutes | 5x Bonus | Individual |

Round Note: 10 points will be awarded for each correctly filled 'row' in the blank grid, as long as it is part of the overall solution.

Sudoku Hunt | 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 Points

Find six solved grids, one each from the given variants below. There are two blank grids and for each variant there is a marked row in one of the two blank grids. Copy the nth row from the solved grid to the marked n^{th} row for the variant. Solve each blank grid as a classic Sudoku. In each grid used in this Sudoku, 1 to 6 appear exactly once in each row, column and 2x3 box. Solved grids may overlap each other, but not completely. The same variant may appear several times, but exactly one will be part of the overall solution.

No XV : Digits in adjacent cells cannot add up to 5 or 10.

No Average : No digit can be average of two horizontally adjacent cells. No digit can be average of two vertically adjacent cells.
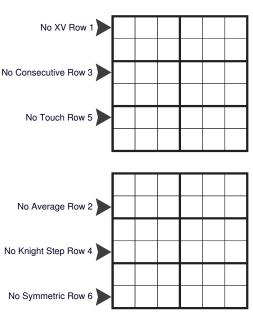
No Consecutive : Digits in adjacent cells cannot be consecutive to each other.

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

No Touch : Identical digits cannot touch each other diagonally.

No Symmetric : Cells that are 180° symmetric about the centre cannot have identical digits.

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

No XV Row 1 ▶

No Consecutive Row 3 ▶

No Touch Row 5 ▶

No Average Row 2 ▶

No Knight Step Row 4 ▶

No Symmetric Row 6 ▶

The main puzzle grid (solved, irregular shape):

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

The dashed solved grid is an example of a variant that is not used in the overall solution.

No XV Row 1 ▶
No Consecutive Row 3 ▶
No Touch Row 5 ▶

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

No Average Row 2 ▶
No Knight Step Row 4 ▶
No Symmetric Row 6 ▶

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

05 THE ORIGINALS

| 350 Points | 30 Minutes | 10x Bonus | Individual |

Round Note: This round has 12 classic Sudokus.

1-12. Classic Sudoku   15 + 15 + 20 + 20 + 25 + 25 + 25 + 30 + 35 + 40 + 40 + 60 Points

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

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

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

06 THINK DIFFERENT

| 500 Points | 50 Minutes | 10x Bonus | Individual |

Round Note: This round has 11 new Sudoku variations. Some of the types are chosen from the Puzzle Innovation Contest.

1. Incremental Arrow Sudoku

25 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Starting from third, each digit along the arrow is the unit's digit of the sum of previous two digits on the arrow.

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

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

2. Wildcard Sudoku

25 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. One digit acts as a wildcard. Cells with ▷ symbol contain digits greater than the wildcard. Cells with ◁ symbol contain digits lesser than the wildcard. It is part of solving to determine the wildcard.

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

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

3. Mirage Sudoku — 30 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Some cells have pencilmark digits. For digit 'n' in a cell with arrow, all pencilmarks in the first 'n' cells in the direction of the arrow are correct, and further pencilmarks are incorrect.

4. Lemons Sudoku — 35 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The sum of digits along the lemon-shaped loop equals the two-digit number reading left-to-right or top-to-bottom inside the loop.

5. Odd Even Bridge Sudoku — 35 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Some circled cells are connected by a bridge. An odd digit in a circle denotes the number of odd digits on the bridge. An even digit in a circle equals the number of even digits on the bridge. The digits on the circles are not counted.

6. First Impression Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The digit in each shaded cell is greater than the digits in the first cell of the corresponding row and first cell of the correspondng column. Not all possible cells are shaded.

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

7. Box Battle Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each pair of adjacent 3x3 boxes contains three pairs of adjacent digits at its edge. The box having the most number of higher digits among the three pairs wins the battle and the arrow points to the losing box.

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

8. Factor Sum Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The number at the top-left corner of each cage equals the sum of digits inside the cage. Each digit in the cage must be a factor of the sum. Digits may repeat inside a cage.

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

9. Big Small Count Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. A digit in a circle is either 'number of neighbouring digits bigger than that digit' or 'number of neighbouring digits smaller than that digit' or both. Not all circles are marked.

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

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

10. Unique Squares Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each 2x2 area contains a unique combination of digits.

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

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

11. Outside Sequence Sudoku
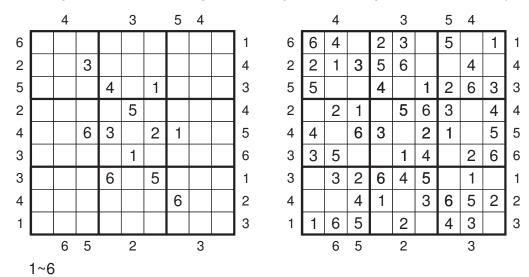
Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. In each row and column, digits in the circled cells form arithmetic progression along with the outside digit, but not necessarily in order. A '?' outside should be replaceable by any digit from 1 to 9.

Top labels: (4) (5) (6) (5) (?) (4) (7) (1) (8)

Left labels: (4) (9) (6) (?) (5) (?) (3) (4) (4)

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

Top labels: (4) (5) (6) (5) (?) (4) (7) (1) (8)

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

07 IS IT A SUDOKU?

Round Note: This round has 9 Sudokus. It is not required to mark the additional elements like stars, code, shading, ships, lines, etc.

1. Star Battle Sudoku   30 Points

Place a digit from the given set into some of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. All the remaining cells contain stars that do not touch each other, even diagonally.

1~8

1~8

2. Mastermind Sudoku   40 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The black and white dots to the right of the grid compare the five marked cells in that row to the mastermind code. Black dots imply correct digits in the correct position while white dots imply correct digits in the wrong position.

40 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Shade some cells in the grid such that the numbers outside the grid represent sums of digits in white cells of the corresponding row or column. If there is more than one sum, the given order is valid and there must be at least one shaded cell between the sums. Some shaded cells may be given.

Top column clues (both grids):

17	21	7				21	9	15
7	4	8				5	2	3
18	6	21	23	13	10	6	22	17

Left grid (puzzle):

Row clues	c1	c2	c3	c4	c5	c6	c7	c8	c9
13 19					8				
20 11				5		6			
12 15					9				
5		9		7				8	
19 6 10	7		8				5		3
2		5				8		4	
23 15					7				
26 15				8		2			
19 25					1				

Right grid (solution):

Row clues	c1	c2	c3	c4	c5	c6	c7	c8	c9
13 19	5	6	2	4	8	1	9	3	7
20 11	9	7	4	5	3	6	8	1	2
12 15	3	8	1	2	9	7	4	5	6
5	2	9	3	7	5	4	6	8	1
19 6 10	7	4	8	1	6	9	5	2	3
2	1	5	6	3	2	8	7	4	9
23 15	8	1	5	9	7	3	2	6	4
26 15	6	3	9	8	4	2	1	7	5
19 25	4	2	7	6	1	5	3	9	8

4. Easy As Sudoku

25 Points

Place a digit from the given set into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The remaining cells are blank. Each digit outside the grid is the first digit seen from the corresponding direction.

Left grid:

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

Bottom clues: 6 5 2 3

1~6

Right grid:

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

Bottom clues: 6 5 2 3

Shade some cells such that the numbers outside the grid equals the amount of shaded cells in each shaded stretch in the corresponding row or column. The shaded regions are separated by one or more white cells. Then transfer the digits from the white cells into the blank grid and solve it as classic Sudoku. Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box.
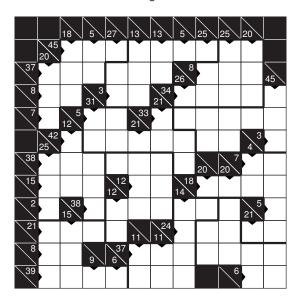
Top-left grid (with outside clues):

Column clues (top):
```
          1  2           2  2
       4  2  1        2  1  1  3
    5  1  2  2  9  2  4  4  5
```

Row clues	c1	c2	c3	c4	c5	c6	c7	c8	c9
2 5	5	5	8	2	1	6	6	8	7
1 5	4	6	9	3	8	9	4	4	1
1 1 1	8	1	2	6	7	5	7	4	8
2 1 2	2	5	4	5	2	3	3	6	8
5 1	3	7	3	9	9	9	6	3	2
2 1 3	9	6	1	8	4	2	3	5	9
1 3 3	2	4	3	8	5	6	2	6	6
1 7	4	8	5	1	8	4	1	7	3
2 5	3	2	5	4	9	1	5	4	7

Top-right grid (partial):

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

Bottom-left grid: (blank answer grid)

Bottom-right grid (solution):

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

6. Sudokuro   **40 Points**

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and irregular shaped outlined box. The sum of digits in each horizontal and vertical group of cells is given on its left and top respectively.
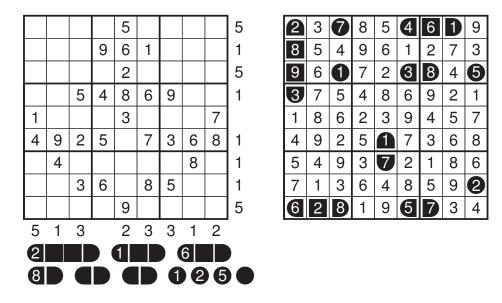
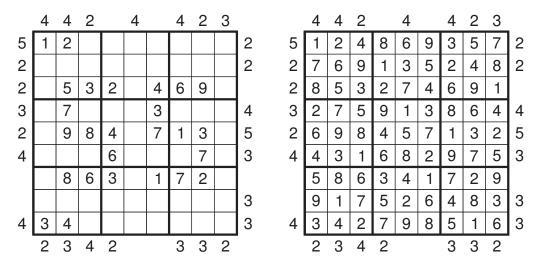Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The given fleet of ships must appear in the grid such that ships do not touch each other, even diagonally. Rotation and reflection are allowed but the orientation of digits in the ships remain the same. Ship segments without a digit can contain any digit. Each number outside the grid is the number of ship segments in the corresponding row or column. Cells with given digits are not part of any ship.

Puzzle grid (with right-side clues):

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

Bottom clues: 5 1 3   2 3 3 1 2

Fleet:
2■■▶ 1■▶ 6■▶
8▶ ◆▶ ◆▶ 1 2 5 ●

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit inside the grid represents the height of the skyscraper in that cell. Each number outside the grid represents the number of skyscrapers that can be seen in the corresponding row or column. Taller skyscrapers hide shorter ones.

Puzzle grid:

Top clues: 4 4 2   4   4 2 3

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

(Left clues top-to-bottom: 5 2 2 3 2 4 _ _ 4)
Bottom clues: 2 3 4 2   3 3 2

Solution grid:

Top clues: 4 4 2   4   4 2 3

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

Bottom clues: 2 3 4 2   3 3 2

Place a symbol from the given set into each of the empty cells so that each symbol appears exactly once in each row, column and 3x3 outlined box. Each given word must appear horizontally, vertically, or diagonally - forward or backward, in the grid.

MOCKTEST
STOCK
SUE
MODE
SUDOKUS

C D E K M O S T U

C	O	T	M	S	E	D	K	U
D	E	U	K	C	O	T	S	M
S	K	M	D	U	T	E	O	C
M	U	O	S	E	D	C	T	K
T	C	D	U	M	K	O	E	S
K	S	E	O	T	C	U	M	D
O	D	C	E	K	S	M	U	T
E	M	S	T	D	U	K	C	O
U	T	K	C	O	M	S	D	E

08 YOURS OR MINE

Round Note: This round has 8 Sudokus, printed on A3 sheets. They are split equally into two sets: Set A and Set B. Each team of four participants will form two sub-teams of two participants each: Sub-Team A and Sub-Team B. When the round begins, Sub-Team A will start solving Set A and Sub-Team B will start solving Set B. After exactly 10 minutes, the sets will be swapped and Sub-Team A will solve Set B and Sub-Team B will solve Set A. Exactly 10 minutes after the first swap, the sets will be swapped again and Sub-Team A will solve Set A and Sub-Team B will solve Set B.

Before the round begins, teams must form their respective sub-teams on their own. They will not be allowed to change once the round begins. Each sub-team will be seated in adjacent tables with a gap. One sub-team cannot have verbal communication with the other sub-team during the round.

A1. Search 9 Sudoku

60 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digit in cells with an arrow points to a 9 in the corresponding direction and equals the distance from that cell to the cell containing the 9.

A2. Kropki Pairs Sudoku

100 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. A white dot between adjacent cells implies that the digits in those cells are consecutive. A black dot between adjacent cells implies that the digit in one cell is double of the other. The dot between cells with 1 and 2 can be of either color. Not all possible dots are marked.

A3. Thermo Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Some thermometer shapes are placed in the grid. Digits are strictly increasing from the round bulb of the thermometer to each flat end.

The solved grid:

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

A4. Sum Detector Sudoku — 300 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. An arrow in a cell indicates that the sum of 'n' consecutive numbers along the direction pointed by the arrow equals the digit in the cell for some value of 'n'. Not all arrows are marked.

The solved grid:

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

B1. Inequality Sudoku — 90 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. If '<' or '>' is present between adjacent cells, the arrow points to the smaller digit of the two.

The solved grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Adjacent cells, reading left-to-right or top-to-bottom, that are a two-digit perfect square are marked in the grid. All such two-digit perfect squares are marked. The list of two-digit perfect squares is 16, 25, 36, 49, 64 and 81.

Puzzle:

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

Solution:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The sum of digits in each cage is the same. It is part of solving to determine the sum.

Puzzle:

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

Solution:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The sum of the digits along the path of each arrow equals the digit in the circled cell. Digits may repeat within an arrow shape.

Puzzle:

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

Solution:

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

1400 Points	35 Minutes	40x Bonus	Team

Round Note: This round has 16 Sudokus, printed on A5 sheets. Each Sudoku has some form of decoration except Pirate Sudoku. However, the decorations will be printed separately from the clues. Each team will be given 32 grids on 32 sheets. 16 of the grids will have only the decorations and other 16 of the grids will have only the given digits. The Sudoku variation name along with the rules and points will be printed on decoration grids but not on the grids with given digits. It is part of solving to match the grids with the decorations and the given digits.

Points for each matched grid will be awarded if it is correctly solved on either the decoration grid or the grid with given digits, as long as the solution is part of the overall solution. There are no points for matching the grids.

A cross-table with variant name for each decoration and the grid number for the given digits will be provided.

The example contains 4 Sudokus with 8 grids.

Maximum Arrow Sudoku

Crossed Sudoku

Pirate Sudoku

Diagonally Consecutive Sudoku

Grids=>	1	2	3	4
Maximum Arrow				
Crossed				
Pirate				
Diagonally Consecutive				

Grid 1

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

Grid 2

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

Grid 3

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

Grid 4

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

Maximum Sudoku / Grid 3

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

Crossed Sudoku / Grid 1

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

Pirate Sudoku / Grid 4

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

Diagonally Consecutive / Grid 2

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

Grids=>	1	2	3	4
Maximum Arrow			●	
Crossed	●			
Pirate				●
Diagonally Consecutive		●		

---

1. Box Sum Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. In each 3x3 box with shaded cells, the digit in one of the shaded cells is sum of digits in all other shaded cells in that 3x3 box.

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

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

105 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Some letters are given between adjacent cells. All instances of the same letter represent same pair of digits. Different letters represent different pair of digits. In a pair, ordering of digits does not matter.

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

3. Confused Knights Sudoku

85 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. If a digit appears even once in any shaded cell, the digit follows Anti-Knight rule throughout the grid. Using Anti-Knight rule, no cell that is a knight-step away can contain the same digit. It is possible that a digit does not appear in any shaded cell and still follows Anti-Knight rule.

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

4. Consecutive Quads Sudoku

70 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. A white dot at intersection of four cells indicates that there is exactly one consecutive pair of digits in those four cells. A black dot at the intersection of four cells implies that there are at least two consecutive pairs of digits in those four cells. Different pairs can use same digit. Not all possible dots are marked.

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

5. Consecutive Triplets Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each set of three shaded cells contain a different set of consecutive digits in order, with middle cell having middle digit. No other set of three adjacent cells can be consecutive in order.

Solution grid:

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

6. Crossed Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. All crosses contain same set of digits in any order.

Solution grid:

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

7. Diagonally Consecutive Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Diagonal cells marked by a bar contain consecutive digits. All possible bars are marked.

Solution grid:

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

8. Kid Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit in the outside clue indicates the sum of one or more continuous digits from left to right for the corresponding row, with the additional constraint that no sum can exceed 9.

Clues (left side, per row): 875799, 878958, —, —, 898794, —, —, 7693749, 789975

Puzzle grid:

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

Solution:

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

9. Maxed Quad Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Arrows are present between two neighbouring 2x2 areas. In the region pointed at by the arrow, all digits are greater than the digits in their corresponding positions in the other area.

Puzzle grid:

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

Solution:

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

10. Maximum Arrow Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The digit in the circle is maximum of all digits visited by the arrow. Digits including the maximum may repeat within an arrow shape.

Puzzle grid:

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

Solution:

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

11. Odd Shape Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. There must be at least one group of cells forming the given shape, with all cells having odd digits. The shape cannot be rotated or reflected.

Puzzle grid (given):

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

Solution grid:

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

Shape reference (2×4 block of circles with bottom-right missing):

12. Pirate Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The digits adjacent to 5 must be lesser than 5.

Puzzle grid (given):

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

Solution grid:

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

13. Pointer Palindrome Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each diagonal pointed by an arrow contains at least one set of digits of minimum length three that reads same from both the directions.

Puzzle grid (given):

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

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each shaded cell has at least one pair of identical digits in its adjacent cells. All such cells are marked.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The sum of digits on the vertices of each rhombus is a multiple of the digit at the centre of the rhombus.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The sum of digits in cells inside every cage must equal the total given for the cage at the upper left cell. Digits do not repeat inside a cage. Sums may not be given for some cages. No two cages can have the same sum.

10 THE BIG CHOICE

1000 Points | **25 Minutes** | **40x Bonus** | Team

Round Note: This round has 2 Samurai Sudokus, printed on A3 sheets. In each of them, one 9x9 Sudoku grid is overlapping on four other grids, at the four corner 3x3 outlined boxes. Place a digit from 1 to 9 into each of the empty cells of each of the grids so that each digit appears exactly once in each row, column and 3x3 outlined box. Additionally, each of the grids must follow one of the two specified rules. It is part of solving to figure out the rule to be used for individual grids. The overlapping 3x3 box must follow both the rules.

Points for each correctly solved 9x9 Sudoku will be awarded, as long as it is part of the overall solution. Partial 5 points per 3x3 box for Samurai Sudoku 1 and 10 points per 3x3 box for Samurai Sudoku 2 will be awarded for each incomplete or incorrect 9x9 Sudoku, as long as it is part of the overall solution.

Samurai Sudoku 1 – 350 points

Top Left – Quadro Sudoku OR No Symmetric Sudoku – 60 Points
Quadro Sudoku: No 2x2 area contains four digits of the same parity.
No Symmetric Sudoku: Cells that are 180° symmetric about the centre cannot have identical digits.

Top Right – Mirror Sudoku OR Queen Sudoku – 80 Points
Mirror Sudoku: The four corner boxes contain the same digits in symmetric positions about the centre.
Queen Sudoku: Digit 9 cannot be placed along the same diagonal of any length.

Centre – No Knight Step Sudoku OR Non Consecutive Sudoku – 90 points
No Knight Step Sudoku: No cell that is a knight-step away can contain the same digit.
Non Consecutive Sudoku: Digits in adjacent cells cannot be consecutive.

Bottom Left – No 3 In A Line Sudoku OR No Touch Sudoku – 70 points
No 3 In A Line Sudoku: No three consecutive cells contain digits that are all odd or all even.
No Touch Sudoku: Identical digits do not touch each other diagonally.

Bottom Right – Disjoint Sudoku OR Touchy Sudoku – 50 points
Disjoint Sudoku: No digit can appear in the same position in different 3x3 boxes.
Touchy Sudoku: Each digit has at least one consecutive digit in its adjacent cells.

Quadro
No Symmetric

Mirror
Queen

No Knight Step
Non Consecutive

No 3 In A Line
No Touch

Disjoint
Touchy

Samurai 2 – 650 points

Top Left – Odd Sudoku OR Even Sudoku – 145 Points
Odd Sudoku: Shaded cells contain odd digits only.
Even Sudoku: Shaded cells contain even digits only.

Top Right – Greater Sudoku OR Lesser Sudoku – 100 Points
Greater Sudoku: Each digit between two cells is the greater of the digits in those two cells.
Lesser Sudoku: Each digit between two cells is the lesser of the digits in those two cells.

Centre – Palindrome Sudoku OR Renban Sudoku – 160 points
Palindrome Sudoku: Digits along each line read the same from both directions.
Renban Sudoku: Digits on each line must contain distinct consecutive digits.

Bottom Left – Killer Sudoku OR Product Killer Sudoku – 115 Points
Killer Sudoku: The sum of digits in cells inside every cage must equal the total given for the cage at the upper left cell. Digits do not repeat inside a cage.
Product Killer Sudoku: The product of digits in cells inside every cage must equal the total given for the cage at the upper left cell. Digits do not repeat inside a cage.

Bottom Right – Quad Max Sudoku OR Quad Min Sudoku – 130 Points
Quad Max Sudoku: The digit pointed by the arrow must be greater than the three other digits that the arrow touches.
Quad Min Sudoku: The digit pointed by the arrow must be lesser than the three other digits that the arrow touches.

Odd
Even

Greater
Lesser

Palindrome
Renban

Killer
Product Killer

Quad Max
Quad Min

Solution:
Top left – No Symmetric Sudoku
Top Right – Mirror Sudoku
Centre – No Knight Step Sudoku
Bottom Left – No Touch Sudoku
Bottom Right – Disjoint Sudoku

Solution:
Top left – Odd Sudoku
Top Right – Lesser Sudoku
Centre – Renban Sudoku
Bottom Left – Product Killer Sudoku
Bottom Right – Quad Max Sudoku

11 ALL IN ONE

Round Note: This round has 10 classic Sudokus, printed on a single A3 sheet. All occurrences of the digit 'n' in the 'n'th Sudoku are in the same position as the 10th Sudoku.

The layout of each of the 'n' Sudokus will be marked below the 10th Sudoku.

The example contains 4x4 Sudokus where all occurrences of the digit 'n' in the 'n'th Sudoku are in the same position as the 5th Sudoku.

4x4 Classic

Grid 1:
			4
	1	2	3
			2
3			1

Grid 2:
1	2	3	
	4		

Grid 3 (empty):

Grid 4:
1	3	2	4
2	4	1	3
4	1	3	2
3	2	4	1

Grid 5:
4	3	1	2
1	2	3	4
2	1	4	3
3	4	2	1

Grid 6:
1	4	3	2
3	2	1	4
2	1	4	3
4	3	2	1

Grid 7:
1		3	4
			2

Grid 8:
1			2
	3		
4			

Grid 9 (example with shaded 1 2 / 3 4):
1		2	
3		4	

Grid 10:
1	2	3	4
3	4	2	1
2	1	4	3
4	3	1	2

Grid 11:
1	4	3	2
2	3	1	4
3	2	4	1
4	1	2	3

1-10. Classic Sudoku

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

Puzzle grid:
	9				8			
8		6		1		4		
	2		5		9			
		1		3				
	3		4		5			
6		3		4		1		
	5				2			

Solution grid:
3	4	6	9	7	8	1	5	2
1	2	9	4	3	5	8	7	6
5	8	7	6	2	1	3	4	9
8	1	2	7	5	6	9	3	4
9	5	4	1	8	3	6	2	7
6	7	3	2	4	9	5	8	1
2	6	8	3	9	4	7	1	5
4	9	5	8	1	7	2	6	3
7	3	1	5	6	2	4	9	8

12 WHAT IS IT?

500 Points	50 Minutes	10x Bonus	Individual

Round Note: This round has 9 instructionless Sudokus. For each Sudoku, an example will be given along with its solution. It is part of solving to determine what the variant instructions are and then solve the Sudoku. It is not required to describe or mark the instructions. When the necessary instructions are applied, the Sudoku will have a unique solution. There are no points for determining the instructions correctly.

Classic Sudoku rule 'Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and thick outlined box' applies to all the grids.

1-9. Instructionless　　　　　　　　　**30 + 40 + 40 + 45 + 55 + 65 + 70 + 75 + 80 Points**

SOLVED EXAMPLE

Solution

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

13 THE JOKER

Round Note: This round has 10 Sudokus. One digit is a joker within the grid and each of the nine instances may assume multiple values from 1 to 9 including the number itself to satisfy the constraints of the variant. It is not required to mark the joker digit. In OEBS Sudoku, each of the eight instances may assume multiple values from 1 to 8 including the number itself.

1. Fortress Sudoku   35 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. If a shaded cell and a white cell are adjacent then the digit in the shaded cell is greater.

Joker Rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The joker may assume any value higher or lower than the digit on the other side of the fortress. The same joker cell may assume different values for different edges of the fortress.

Puzzle grid:

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

Solution grid:

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

2. Pencilmarks Sudoku   40 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Cells with pencilmark digits must contain one of those digits.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The joker may assume any of the given pencilmarks in the cell.

Puzzle grid (with pencilmarks shown in small digits):

1			2	3456		9	123	
	9			1	2345		2	234
		2			4	1234		1
3			8			4	6789	
45	2			5			1	5678
	56	8			3			2
7	67		5			2		
345	4		56	3			8	
	789	1		45	9			3

Solution grid (with small pencilmark annotations preserved):

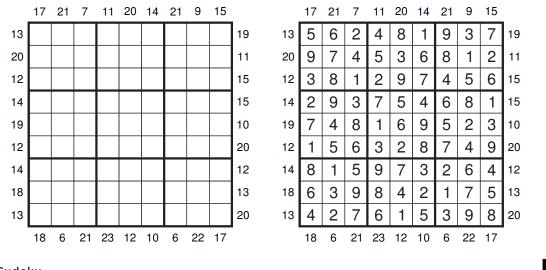| 1	7	4	2	3456 6	8	9	123 3	5
6	9	3	7	1	2345 5	8	2	234 4
8	5	2	3	9	4	1234 7	6	1
3	1	5	8	2	7	4	6789 9	6
45 4	2	7	9	5	6	3	1	5678 8
9	56 6	8	1	4	3	5	7	2
7	3	67 6	5	8	1	2	4	9
345 5	4	9	56 6	3	2	1	8	7
2	789 8	1	4	45 7	9	6	5	3

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits in adjacent cells cannot be consecutive.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The joker may assume any value that is not consecutive to the digit in its adjacent cell. The same joker cell may assume different values for different pairs of adjacent cells.

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

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits in each corresponding cell in both shaded figures are identical.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. A clone cell with a joker may contain any digit in its corresponding clone cell.

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

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits along each line form arithmetic progression.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The joker may assume any value as part of a sequence.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each of the four shaded 3x3 boxes contains each digit from 1 to 9.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The joker may assume any value that is not present in the shaded box.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each number between adjacent cells is the product of the digits in those two cells.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The same joker cell may assume different values for different product clues.

Puzzle grid (clues):

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

Product clues: 5, 27, 24, 32, 18, 40, 10, 20, 20, 7, 20

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each 2x2 area with digits increasing in clockwise direction is marked with a white dot in the middle of the area. Each 2x2 area with digits increasing in anti-clockwise direction is marked with a black dot in the middle of the area. All such dots are marked.

Joker rule: One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The same joker cell may assume different values for different 2x2 areas.

Puzzle grid (clues):

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

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each 2x2 area with two odd digits and two even digits forming a checkerboard pattern is marked with a battenburg symbol. All such symbols are marked.

Joker rule: One digit plays as the joker across the grid and may be considered as odd or even. The same joker cell may assume different parities for different 2x2 areas.

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

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

Place a digit from 1 to 8 into each of the empty cells so that each digit appears exactly once in each row, column and 2x4 outlined box. Four different symbols outside the grid indicate four different properties of the digits in the first two cells in that direction. The 奇 symbol is for 1, 3, 5, 7. The 偶 symbol is for 2, 4, 6, 8. The 大 symbol is for 5, 6, 7, 8. The 小 symbol is for 1, 2, 3, 4.

Joker rule: One digit plays as the joker across the grid and has all four properties.

Top labels: 奇 odd · 偶 even · 大 big · 小 small · 奇 odd · 偶 even · 大 big · 小 small
Left labels: 偶 even · 大 big · 小 small
Right labels: 奇 odd · 偶 even · 大 big
Bottom labels: 小 small · 奇 odd · 偶 even · 大 big

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

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

14 THE USUAL SUSPECTS

500 Points **45 Minutes** **10x Bonus** Individual

Rounds note: This round has 12 assorted Sudoku variants.

1. Trio Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Cells with circles contain the digits 1, 2 and 3. Cells with squares contain the digits 4, 5 and 6.

2. No Touch Sudoku
25 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Identical digits do not touch each other diagonally.

3. Non Consecutive Sudoku
25 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Digits in adjacent cells cannot be consecutive.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. No cell that is a knight-step away can contain the same digit.

Puzzle grid:

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

Solution grid:

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

Place a digit from 1 to 9 in each empty hexagonal cell so that each digit appears exactly once in each row, column and 3x3 region. Digits do not repeat along any of the three directions in which the hexagonal cells share edges.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The connected shaded cells contain each digit from 1 to 9.

Puzzle grid:

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

Solution grid:

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

7. Irregular Sudoku

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

Puzzle:

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

Solution:

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

8. Toroidal Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and irregular shaped outlined regions. Some outlined regions wrap around the grid.

Puzzle:

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

Solution:

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

9. Mirror Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The four corner boxes contain the same digit in symmetric positions about the centre.

Puzzle:

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

Solution:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each line contains a set of distinct consecutive digits.

Puzzle grid:

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

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each number outside the grid is the sum of the first three digits in the corresponding direction.

Puzzle (top clues: 17 21 7 11 20 14 21 9 15; bottom clues: 18 6 21 23 12 10 6 22 17; left clues top-to-bottom: 13 20 12 14 19 12 14 18 13; right clues: 19 11 15 15 10 20 12 13 20)

Empty puzzle grid.

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Numbers with arrows outside the grid is the sum of the digits in the direction pointed by the arrow.

Puzzle (top clues: 1 5 15 20 43 28; left clues: 28 28 14 19 11 6; right clues: 5 5 24 18 29 21; bottom clues: 26 25 7 20 15 4)

Puzzle grid:

				5				
			7		8			
		2				4		
			4		9			
				8				

Solution grid:

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

| 250 Points | 30 Minutes | 5x Bonus | Individual |

Round Note: This round has 4 linked classic Sudokus. Partial 7 points per 3x3 box will be awarded for each incomplete or incorrect classic Sudoku, as long as it is part of the overall solution.

1-4. Classic Sudoku | **65 + 60 + 65 + 60 Points**

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

The numbers between the grids represent the number of digits that are at same cells in the corresponding row or column in both the grids.

It is not required to mark the common digits to get points.

Grid 1 (top-left)

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

Right edge: 0, 0, 1, 1, 2

Grid 2 (top-right)

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

Bottom edge (Grid 1 / Grid 2): 1, 7, 1, 0, 2 | 1, 0, 1, 9, 1

Grid 3 (middle-left)

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

Right edge: 0, 1, 2, 7, 0

Grid 4 (middle-right)

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

Grid 5 (solved, bottom-left)

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

Right edge: 0, 0, 1, 1, 2

Grid 6 (solved, bottom-right of upper-bottom)

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

Bottom edge: 1, 7, 1, 0, 2 | 1, 0, 1, 9, 1

Grid 7 (solved, bottom-left lower)

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

Right edge: 0, 1, 2, 7, 0

Grid 8 (solved, bottom-right lower)

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

16 DO NOT BLINK

Round Note: This round has 6 classic Sudokus and 10 variant Sudokus. Each sudoku has a unique solution and will be displayed on a screen for exactly 60 seconds. One cell will be marked with a red circle. Solve the grid visually and identify the digit in that cell.

There will be a break of 10 seconds between Sudokus.

No blank grids or any other sheet of paper or item, except for writing instruments can be used. Notations and markings can only be made on the answer sheets provided.

Ladder points will be awarded based on the number of correct answers.

Correct Answers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Points	5	10	15	20	25	30	35	40	50	60	70	80	95	110	130	150

For each incorrect answer, 3 points will be deducted. The total points in this round cannot be less than 0.

1-6 Classic Sudoku

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

The answer is at bottom of next page.

7,8. Diagonal Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each main diagonal contains each digit from 1 to 9.

The answer is at the end of the round.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The connected shaded cells contain each digit from 1 to 9.

The answer is at the end of the round.

11,12. Irregular Sudoku

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

The answer is at the end of the round.

13,14. Odd Even Sudoku

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Cells with shaded squares contain even digits. Cells with shaded circles contain odd digits.

The answer is at the end of the round.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Some digits have been substituted by letters. All instances of the same letter must be substituted by the same digit and different letters must be substituted by different digits.

		C		8	4			
	S			5	2		C	
W		2	6			S		
		4	3		W		6	1
1	7						9	3
6	9		C		1	8		
		S	◯		9	6		C
	W		4	6			S	
			2	1		W		

The answer is at the end of the round.

The answers to the previous 5 grids are 8, 2, 9, 1, 1 and 5.

17 SIXERS

Round Note: This round has 36 Sudoku grids numbered from 1 to 36 that are subsequently used in the final 6x6 Sudoku Base Grid. Each grid is of size 6x6, but exactly six digits from 1 to 9 are used, with three missing digits.

Each of the 36 Sudokus has a corresponding tile that is identified by the grid number. The tile contains the variant label and three boxes to fill in the missing digits of that Sudoku. The variant labels are 'CLA' for Classic Sudoku, 'OEC' for Odd Even Count Sudoku, 'PK' for Product Killer Sudoku, 'PM' for 'Pencilmarks Sudoku', 'PTN' for Point To Next Sudoku and 'TCP' for Two Consecutive Pairs Sudoku.

The 36 tiles need to be placed on the Sudoku Base Grid such that each row, column and thick-outlined 2x3 box contains each variant label exactly once and each digit from 1 to 9 exactly twice using the missing digits. Some clues in the form of variant labels and missing digits are given in the Sudoku Base Grid.

There is a blank 6x6 Answer Grid provided for the Sudoku Base Grid where the grid numbers of the 36 tiles need to be entered in the corresponding position of the Sudoku Base Grid.

No pencilmarks, notations, cancellations or any form of markings can be made on the Sudoku Base Grid or on the Answer Grid. Only the final position of the tiles must be written clearly on the Answer Grid.

At the end of the round, the 36 Sudoku grids, the 36 tiles, the Sudoku Base Grid and the Answer Grid will be collected.

Points for each of the 36 Sudoku individual grids will be awarded if it is solved completely, as long as it is part of the overall solution. In total, this is 900 points.

25 points will be awarded for each correct grid position on the Answer Grid, as long as it is part of the overall solution. In total, this is 900 points.

If any markings are found on the Sudoku Base Grid or Answer Grid, except the grid positions in the Answer Grid, the team will be awarded no points for Sudoku Base Grid.

All Sudokus are printed on A4 sheets. Tiles will be placed inside an envelope.

The example contains 16 Sudokus of size 4x4 and Sudoku Base Grid of size 4x4, using digits from 1 to 8. Exactly four digits will be missing in each grid. The variants used in the example are labelled as CLA, OEC, PTN and TCP.

1-4. Classic Sudoku

Place a digit from 1-8 in each cell such that each row, column and 2x3 box contain the same set of digits.

After solving the grids, fill in missing digits in the corresponding piece.

Place a digit from 1-8 in each cell such that each row, column and 2x3 box contain the same set of digits. A digit in a circle gives the number of cells around it having digits of same parity.

After solving the grids, fill in missing digits in the corresponding piece.

9-12. Point To Next Sudoku

Place a digit from 1-8 in each cell such that each row, column and 2x3 box contain the same set of digits. If a digit N is in an arrow, digit N+1 must be in the direction of the arrow.

After solving the grids, fill in missing digits in the corresponding piece.

Place a digit from 1-8 in each cell such that each row, column and 2x3 box contain the same set of digits. Where there is a white dot, the digits on either side must differ by 2. All dots are NOT given.

After solving the grids, fill in missing digits in the corresponding piece.

Before starting to solve the example, it is advisable to cut the top configuration into 16 pieces along the space between the borders.

16 tiles

Sudoku Base Grid

Answer Grid

1

7	6	4	8
4	8	6	7
6	7	8	4
8	4	7	6

2

4	8	2	6
6	2	8	4
2	4	6	8
8	6	4	2

3

5	1	3	7
3	7	5	1
7	3	1	5
1	5	7	3

4

1	5	7	2
7	2	5	1
2	7	1	5
5	1	2	7

5

6	4	7	(1)
1	7	(4)	6
7	6	1	4
4	1	6	7

6

7	8	(3)	1
3	1	7	8
1	7	8	(3)
8	3	1	7

7

(1)	2	7	8
7	8	1	(2)
(2)	7	8	1
8	(1)	2	7

8

1	6	(4)	(2)
2	4	(6)	(1)
(4)	2	1	6
6	(1)	2	4

9

3	5	6	4
6	4	5	3
5	3	4	6
4	6	3	5

10

5	3	7	8
7	8	5	3
3	7	8	5
8	5	3	7

11

2	4	5	6
5	6	4	2
4	2	6	5
6	5	2	4

12

2	5	3	8
8	3	5	2
5	2	8	3
3	8	2	5

13

6	8	2	4
4	2	8	6
2	4	6	8
8	6	4	2

14

3	8	6	4
6	4	3	8
4	3	8	6
8	6	4	3

15

5	3	2	1
2	1	3	5
1	2	5	3
3	5	1	2

16

1	7	5	3
3	5	7	1
7	1	3	5
5	3	1	7

1235 CLA	1357 CLA	2468 CLA	3468 CLA
1	2	3	4
2358 OEC	2456 OEC	3456 OEC	3578 OEC
5	6	7	8
1278 PTN	1246 PTN	1378 PTN	1467 PTN
9	10	11	12
1357 TCP	1257 TCP	4678 TCP	2468 TCP
13	14	15	16

3578 OEC	1235 CLA	1467 PTN	2468 TCP
1246 PTN	4678 TCP	2358 OEC	1357 CLA
1357 TCP	2456 OEC	3468 CLA	1278 PTN
2468 CLA	1378 PTN	1257 TCP	3456 OEC

8	1	12	16
10	15	5	2
13	6	4	9
3	11	14	7

Here are the variants appearing in this round.

1-6. Classic Sudoku

Place a digit from 1-9 in each cell such that each row, column and 2x3 box contain the same set of digits.

① ② ③
4 5 6
⑦ ⑧ ⑨

					7
				2	
		2	8		
	7	3	9		
	1	8			

2	8	1	3	9	7
9	3	7	1	2	8
1	9	2	8	7	3
8	7	3	9	1	2
7	1	8	2	3	9
3	2	9	7	8	1

① ② ③
4 5 6
⑦ ⑧ ⑨

7-12. Odd Even Count Sudoku

Place a digit from 1-9 in each cell such that each row, column and 2x3 box contain the same set of digits. A digit in a circle gives the number of cells around it having digits of same parity.

① ② 3
4 5 ⑥
7 8 9

◯		◯			
◯					
			◯		6
			◯		1
1					
2		◯			

③	7	②	1	6	5
⑤	1	6	2	7	3
7	3	1	⑤	2	6
6	2	5	⑦	3	1
1	6	7	3	5	2
2	5	③	6	1	7

① ② ③
4 ⑤ ⑥
⑦ 8 9

Place a digit from 1-9 in each cell such that each row, column and 2x3 box contain the same set of digits. Some cells have markings of possible digits that can be in them.

Place a digit from 1-9 in each cell such that each row, column and 2x3 box contain the same set of digits. The number in the top left of the cage gives the product of all digits in that cage. Digits cannot repeat in cages.

Place a digit from 1-9 in each cell such that each row, column and 2x3 box contain the same set of digits. If a digit N is in an arrow, digit N+1 must be in the direction of the arrow.

Place a digit from 1-9 in each cell such that each row, column and 2x3 box contain the same set of digits. Where there is a white dot, the digits on either side must differ by 2. All dots are NOT given.

18 THE JOURNEY

Round Note: This round has 12 classic Sudokus and 13 variant Sudokus, printed on single A0 sheet. Several connectors will be drawn across the grids. Both ends of each connector must have identical digits.

Points will be awarded for each Sudoku, as long as it is part of the overall solution.

The competition booklet will not have the instructions printed.

The example contains 3 Sudokus.

All Odd All Even

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

Classic

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

Neighbours

17								7
21								23
6			27					9
2	4						1	7
7	3	9				4	8	6
	1	2	3		6	8	5	
		7	1		9	3		
			4		8			

Solution

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

Solution

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

Solution

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

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

Puzzle grid (given digits):

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

Solution grid:

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

2. Toroidal Sudoku [2006]   120 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and irregular shaped outlined regions. Some outlined regions wrap around the grid.

Puzzle grid (given digits):

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

Solution grid:

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

4. Neighbors Sudoku [2007]   70 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each number at top-left corner of a cell is the sum of the digits in its adjacent cells.

Puzzle grid (given digits and corner clues):

Corner clues: 5, 12 (row1 top-left cells), 19, 12; 25; 20, 20; 9; 21

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

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. In each 3x3 box, all shaded cells must contain digits of the same parity.

Solution grid:

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

8. Triangles Sudoku [2009]   120 Points

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The sum of digits on the vertices of each triangle is the same.

Solution grid:

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

10. Just One Cell Sudoku [2010]   70 Points

The given classic Sudoku has multiple solutions. But one empty cell will contain the same digit in all solutions. Locate the cell and find the digit.

The connecting cells from this grid must be determined before solving the grid as Just One Cell Sudoku.

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and outlined region. Some cells are divided in half and there must be a digit in any one half.

2	3					5	9
7	6					8	1

(puzzle grid and solution grid)

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Three cells containing the same digit will be highlighted. Exactly two of them are correct and one of them is a pinnochio and is incorrect.

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each line connecting nine cells contains each digit from 1 to 9.

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The digit in a cell with an arrow does not appear in any of the cells pointed by the arrow.

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. The connected shaded cells contain each digit from 1 to 9. Each marked extra region contains each digit from 1 to 9. Each number at the intersection of two or four cells is the sum of digits in those cells.

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each digit between adjacent cells is the ten's position of the product of the digits in those cells.

Solution grid:

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

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each number between adjacentcells is the product of the digits in those cells. One digit plays as the joker across the grid and may assume multiple values from 1 to 9. The same joker cell may assume different values for different product clues.

Place numbers in the grid such that each ring, each sector and each circle part bordered by thick lines contain each digit from 1 to 8.