सudoku
mahabharat

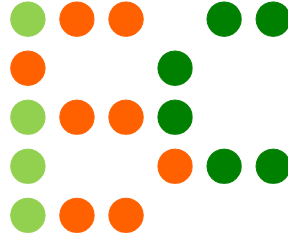### Episode – 2
11th – 15th January 2019

Outside and Neighbours Variations
By
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Sudoku Mahabharat rounds will also serve as qualifiers for Indian Sudoku Championship for year 2019. Please check http://logicmastersindia.com/SM/2019sm.asp for details.

About this Episode

This episode has the following Sudokus
- Mini Classic Sudoku (4)
- Classic Sudoku (4)
- Irregular Frame Sudoku (2)
- Unordered Distances Sudoku (2)
- Outside Parity Sudoku (2)
- Coded Pairs Sudoku (2)
- Fortress Sudoku (2)

How to participate?

- Understand the rules of different Sudokus that will appear in this episode. This Instruction Booklet has rules and examples for each Sudoku.
- Download the password protected Sudoku booklet (will be uploaded before the test starts). The Sudoku booklet contains the actual Sudokus to be solved. It is password protected, so you won't be able to open it.
- Any time on or after 11th January (but on or before 15th January), login at the submission page using your LMI userid and password.
- Please check the submission page for exact timing.
- Click on "Start". At this time, password for pdf will be shown and timer will start.
- You can either solve online using flash interface or print the pdf and solve on paper.
- Each Sudoku will be marked with two arrows
- If solving on paper
    - Fill the answer form with digits along the marked arrow(s)
    - Click submit button
- If solving online
    - After solving the Sudoku, click on "Submit" button below the grid
    - Each Sudoku grid has different submit buttons

If you are participating at LMI for first time, you must check the F.A.Q. at:
http://logicmastersindia.com/t/?tid=381.

Points Table and Scoring

Points typically indicate difficulty of the Sudokus and time required to solve them. While the organizers have made best efforts to match them, your personal experience and preference may differ.

This test uses instant grading where a solver can submit any individual Sudoku and receive confirmation that the solution is correct or not. Each incorrect submission reduces the sudoku's potential score. The first, second, third, and fourth incorrect submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively.

Mini Classic 1-6	1, 1, 1, 1
Classic 1-9	5, 4, 5, 6
Irregular Frame 1-6, 1-9	2, 11
Unordered Distances 1-6, 1-9	5, 12
Outside Parity 1-6, 1-9	3, 15
Coded Pairs 1-6, 1-9	3, 12
Fortress 1-6, 1-9	2, 11

Bonus

If you submitted all Sudokus correctly, you can have bonus points 1 point per minute saved, computed up to seconds.

General Rules

To make the rules less repetitive, you will see following line "Apply standard Sudoku rules" in most Sudoku rules. This means "Place a digit from 1 to N, where N is the size of the grid, in each empty cell so that each digit appears exactly once in each row, column and outlined region." These outlined regions could be 3X3 boxes, or other shapes.

Each Sudoku will be marked with, at max, 2 lettered arrows. If you are solving on paper, you need to submit the digits in these arrows, in order, including the givens. For example, the answer key for the Sudoku at the right is 162897453, 517698432.

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

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About the Sudoku Booklet

The password protected Sudoku booklet will have 8 pages. If you are planning to solve on paper, we advise you to have a printer accessible with enough paper.

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

1-4 Mini Classic Sudoku
1+1+1+1 points

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and 2X3 box.
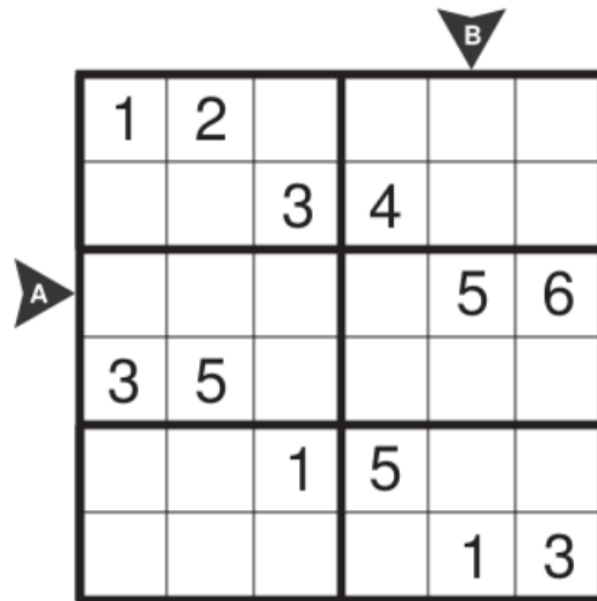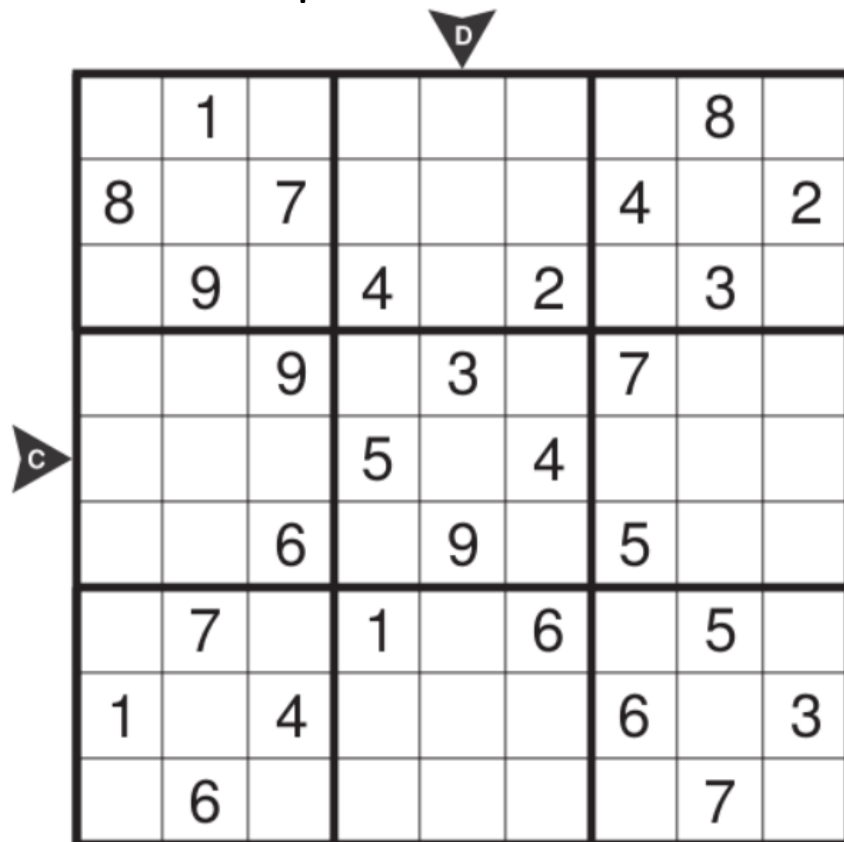

5-8 Classic Sudoku
5+4+5+6 points

Classic Sudoku

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and 3X3 box.
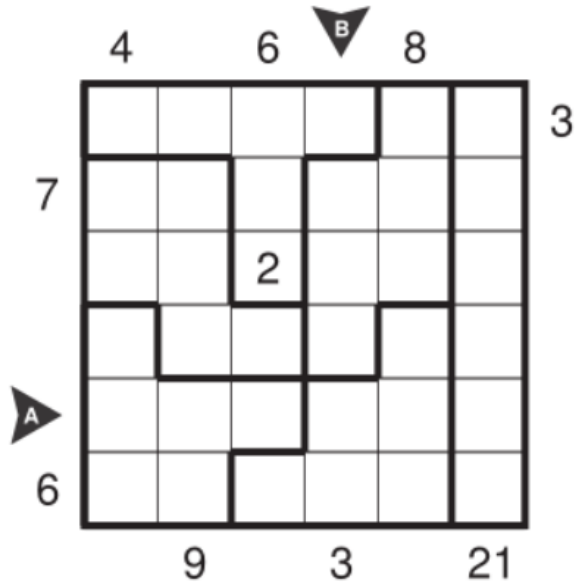

Sudoku Mahabharat   **Outside and Neighbours (January 2019)**

Irregular Frame - 1

2 points

Place a digit from 1 to 6 in each empty cell so that each digit appears exactly once in each row, column and outlined region. Each outlined region is marked by thick borders.

Numbers outside the grid equal the sum of the digits appearing in the cells in the first box (till the next bold line) seen from that edge of the grid.
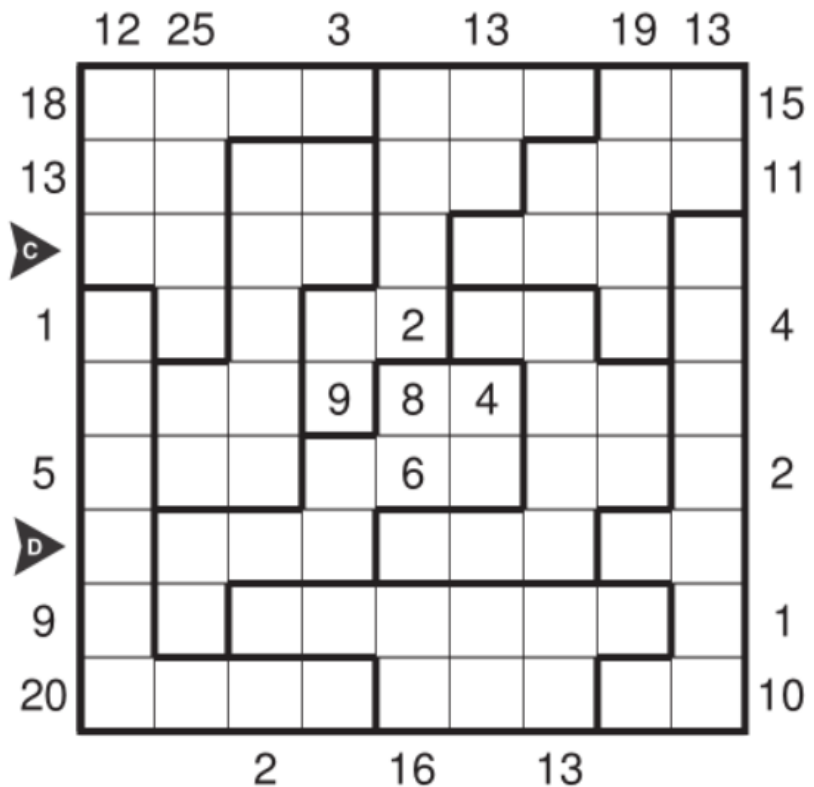

Irregular Frame - 2

11 points

Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined region. Each outlined region is marked by thick borders.

Numbers outside the grid equal the sum of the digits appearing in the cells in the first box (till the next bold line) seen from that edge of the grid.

Unordered Distances - 1

5 points

Apply classic Sudoku rules.

Outside some rows and columns, the distance between two digits in that row or column is given. **The order of the two digits is NOT given and is to be determined as part of solving.**

Columns (top): 1-4:3, 2-4:4, F, 3-4:2, 1-3:2, 1-6:5

E (left row marker)

Right side:
1-2:5
4-6:4
4-5:1
2-3:3
3-6:5

Unordered Distances - 2

12 points

Apply classic Sudoku rules.

Outside some rows and columns, the distance between two digits in that row or column is given. **The order of the two digits is NOT given and is to be determined as part of solving.**

Columns (top): 4-9:2, 3-6:1, 6-9:4, 2-7:5, 4-6:4, 4-8:6, 3-7:3, 2-4:6, 3-5:4

G, H (left row markers)

Grid values:
Row 1: 1, ..., 6
Row 2: 6
Row 3: 4, 1
Row 4: 5
Row 5: 4
Row 6: 2
Row 7: 1, 7
Row 8: 6
Row 9: 7, 1

Right side:
1-6:8
6-9:4
2-4:2
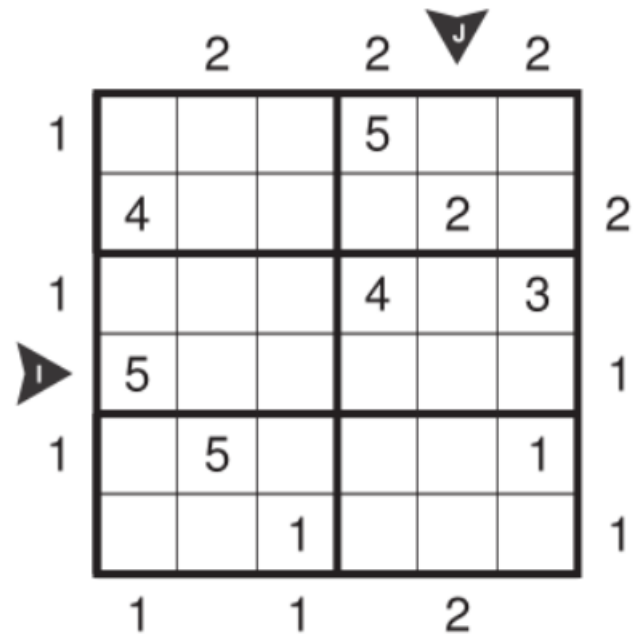6-7:5
4-5:4
4-5:7
6-7:6
4-6:6
5-7:5

Outside Parity - 1

3 points

Apply classic Sudoku rules.

Each number outside the grid is the number of consecutive digits with the same parity from the corresponding direction.

(Please note that the bold line is NOT a stopper for the outside clue. Actually, the clue has no relation with the bold line.)

Outside Parity - 2

15 points

Apply classic Sudoku rules.

Each number outside the grid is the number of consecutive digits with the same parity from the corresponding direction.

(Please note that the bold line is NOT a stopper for the outside clue. Actually, the clue has no relation with the bold line.)
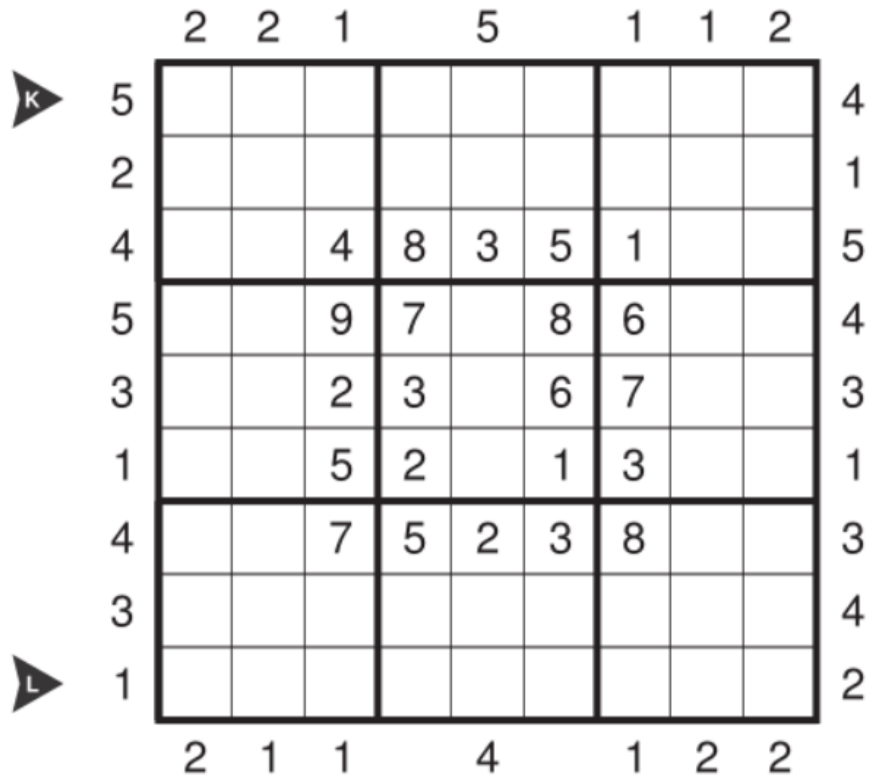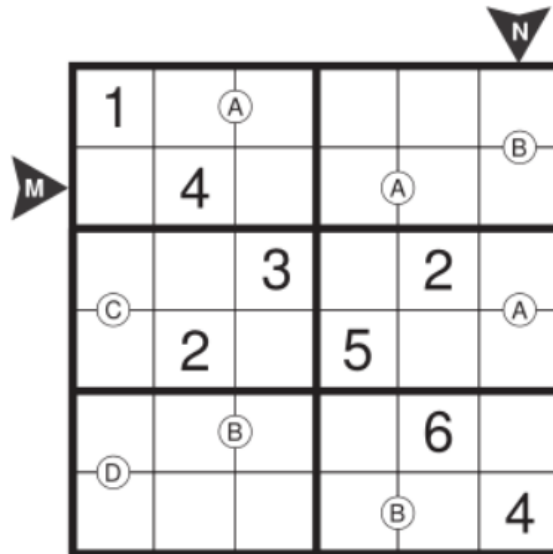
Coded Pairs - 1

3 points

Apply standard Sudoku rules.

Some letters are given between two adjacent cells. Same letter represents same pair of digits across the grid. Different letters must represent different pairs. Ordering of digits inside the pair does not matter

Coded Pairs - 2

12 points

Apply standard Sudoku rules.

Some letters are given between two adjacent cells. Same letter represents same pair of digits across the grid. Different letters must represent different pairs. Ordering of digits inside the pair does not matter
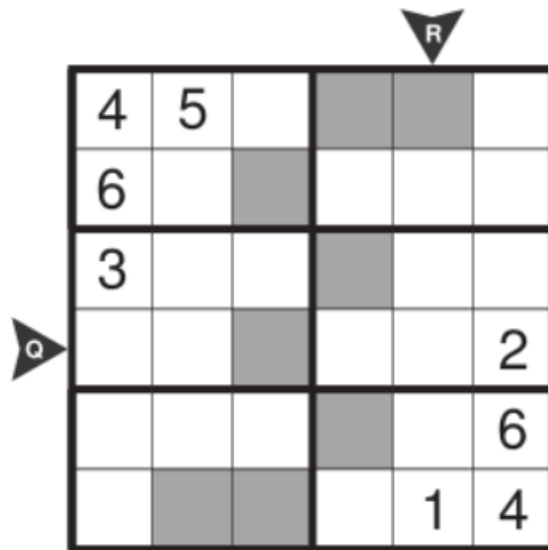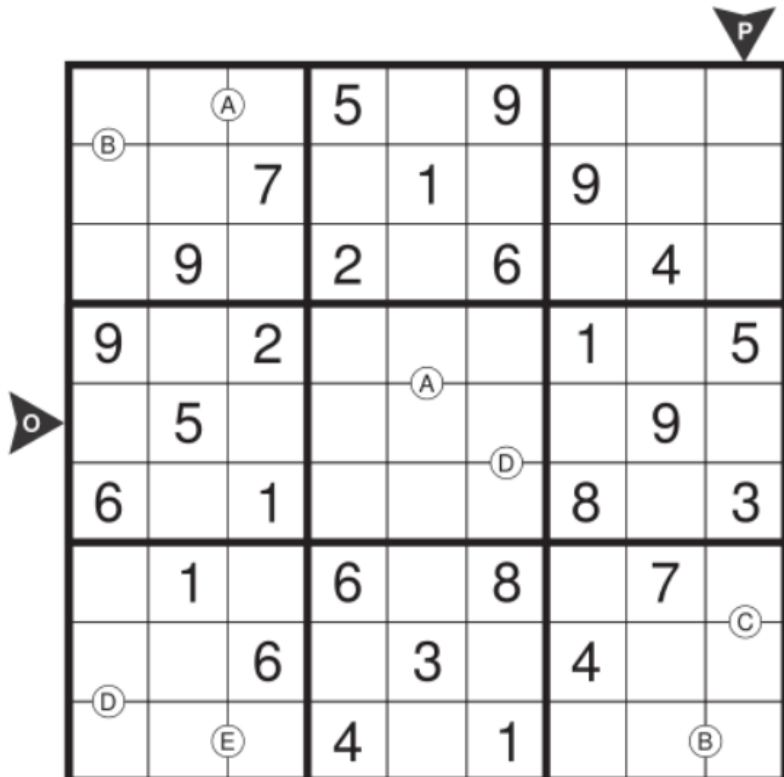
Fortress Sudoku - 1

2 points

Apply classic sudoku rules.

There is a fortress on the playground formed by shaded cells. The shaded cells have to be greater than the horizontally or vertically adjacent white cells.

Fortress Sudoku - 2

11 points

Apply classic sudoku rules.

There is a fortress on the playground formed by shaded cells. The shaded cells have to be greater than the horizontally or vertically adjacent white cells.
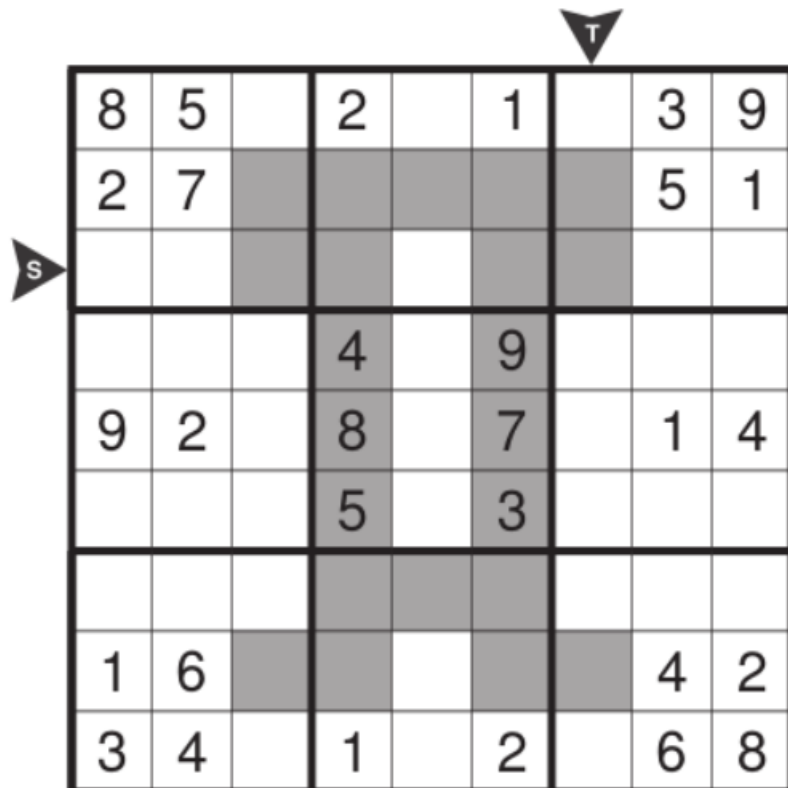
Standard - 1

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

(markers: B top, A left)

Standard - 2

(marker D top)

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

(marker C left)

Irregular Frame - 1

Top: 4   6 (B)   8

4	6	1	5	2	3	3
6	1	3	4	5	2	(7)
5	3	2	6	1	4	
1	2	4	3	6	5	
3	5	6	2	4	1	(A)
2	4	5	1	3	6	(6)

Bottom: 9   3   21

Unordered Distances – 1

Top clues: 1-4:3   2-4:4   (F)   3-4:2   1-3:2   1-6:5

2	4	3	5	6	1	1-2:5
1	6	5	3	2	4	4-6:4
5	3	4	6	1	2	
6	1	2	4	5	3	4-5:1
4	2	6	1	3	5	2-3:3
3	5	1	2	4	6	3-6:5

(marker E left)

Irregular Frame – 2

Top: 12 25   3   13   19 13

Left: 18, 13, C, 1, 3(?), 5, D, 9, 20

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

Bottom: 2   16   13

Unordered Distances – 2

Top clues: 4-9:2   3-6:1   6-9:4   2-7:5   4-6:4   4-8:6   3-7:3   2-4:6   3-5:4

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

(markers G and H left)

Outside Parity - 1

Coded Pairs - 1

Outside Parity – 2

Coded Pairs - 2

Fortress – 1

Fortress – 2