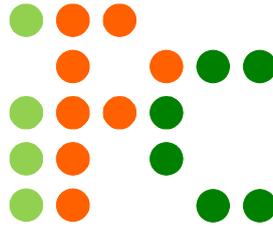


puzzle Ramayan

and



Episode – 3
16th – 19th March 2018

Made In India and Regions
by
Prasanna Seshadri

Puzzle Ramayan rounds will also serve as qualifiers for Indian Puzzle Championship for year 2018. Please check <http://logicmastersindia.com/PR/2018pr.asp> for details.

Important Links

Submission Page : <http://logicmastersindia.com/PR/201803/>

Discussion Thread : <http://logicmastersindia.com/t/?tid=1731>

F. A. Q. : <http://logicmastersindia.com/t/?tid=381>

Registration, if required : <http://logicmastersindia.com/register.asp>

About this Episode

This episode has 22 Puzzles from the following puzzle types:

- 3* Balance Loop
- 3* Place by Product
- 3* Rassi Silai
- 2* Balance Loop Instructionless
- 3* Fillomino
- 3* Araf
- 3* Slash Pack
- 2* Araf Squared

How to participate?

- Understand the rules of different puzzles that will appear in this episode. This Instruction Booklet has rules for each puzzle.
- Download the password protected Puzzle booklet (will be uploaded before the test starts). The Puzzle booklet contains the actual Puzzles to be solved. It is password protected, so you won't be able to open it.
- Any time on or after 16th March (but on or before 19th March), 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.
- The puzzle booklet should be downloaded, printed and solved on paper.
- There will not be any interface / applet to solve the puzzles on web browser.
- Most of the puzzles are designed to be solved faster on paper.
- We advise you to have a printer accessible with enough paper.
- Outside solving help of any kind is not permitted. This includes but is not limited to: assistance of any kind from any other person; prepared notes, books, calculators, computers, or tools other than items explicitly permitted.
- You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, and tape.

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

About answer keys and Submission

- Each puzzle has some answer keys, as described in the instructions.
 - After solving the puzzle, you need to submit the puzzle using the answer keys.
 - You may submit the answer keys anytime during the test duration. You may consider submitting a puzzle as soon as you solve it.
 - Answer keys are always to be entered from left to right or top to bottom
 - Don't enter any separator unless specified in the answer key
 - If one row and one column is marked, enter the row first and then the column
 - If multiple rows are marked, enter from top to bottom for marked rows
 - If multiple columns are marked, enter from left to right for marked columns
 - If horizontal and vertical keys are needed, first enter the horizontal and then the vertical
 - Uppercase or lower case of answer key does not matter
 - Characters other than alphabets, numbers and comma will be removed while checking the answer
-

Points Table and Scoring

Points typically indicate difficulty of the Puzzles and time required to solve them. You will get full points if you enter the correct answer key. While the organizers have made best efforts to match them, your personal experience and preference may differ.

Balance Loop	4, 5, 4
Place by Product	1, 6, 5
Rassi Salai	2, 6, 5
Balance Loop Instructionless	5, 11
Fillomino	2, 3, 5
Araf	2, 4, 4
Slash Pack	1, 2, 2
Araf Squared	9, 12

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

Bonus and Ranking

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

Ranking will be based on following rules in order:

1. Most total points
2. Earliest final submission time, up to seconds (ignoring incorrect submissions)

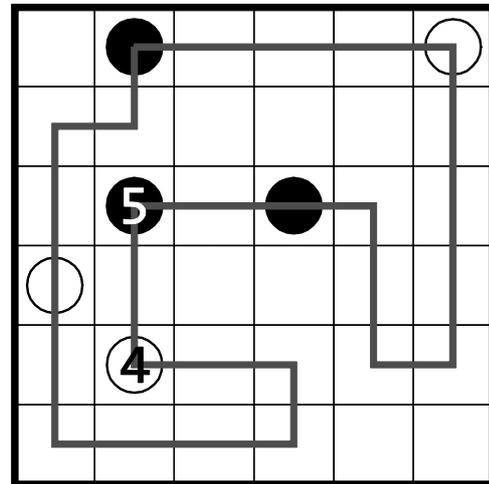
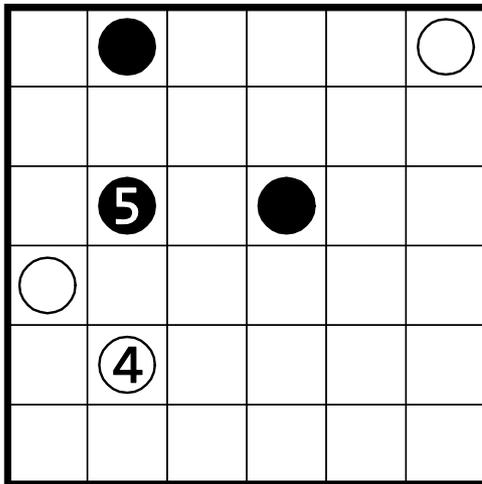
About the Puzzle Booklet

The password protected Puzzle booklet will have 9 pages. We expect you to print and solve on paper, so you would need to have a printer accessible with enough paper.

1-3 Balance Loop

4 + 5 + 4 points

Draw a closed loop passing through centres of cells horizontally or vertically. All white circles must have equal segment lengths on both sides of the circle before turning. All black circles must have unequal segment lengths on both sides of the circle before turning. Numbers indicate the sum of the segment lengths on both sides of the circle.



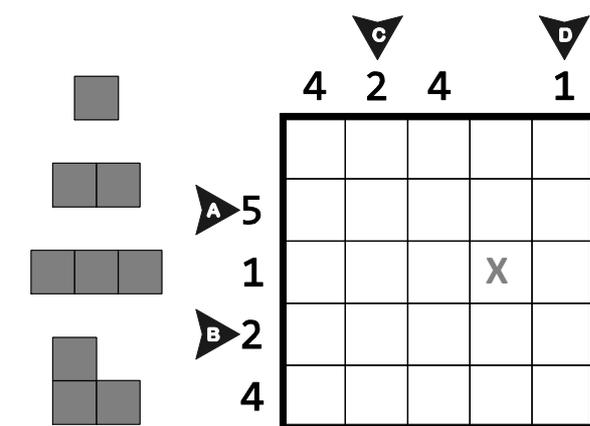
Answer key: For each row, enter the length of the largest horizontal loop segment. Enter 0 if there are no horizontal loop segments in a row.

Example: 413023

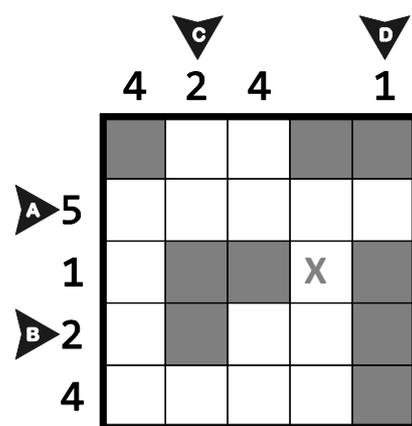
4-6 Place by Product

1 + 6 + 5 points

Place some/all of the given set of shapes (as mentioned in the text below the shapes) into the grid. Shapes do not touch each other, even diagonally. Rotations and reflections are considered the same shape. The shapes divide rows and columns into groups of adjacent unoccupied cells. The numbers outside the grid indicate the multiplicative product of the sizes of the unoccupied groups in the corresponding row or column. 'X' indicates an unoccupied cell.



(All shapes)



Answer Key: Enter the lengths of groups of occupied cells and unoccupied cells, for the marked rows/columns.

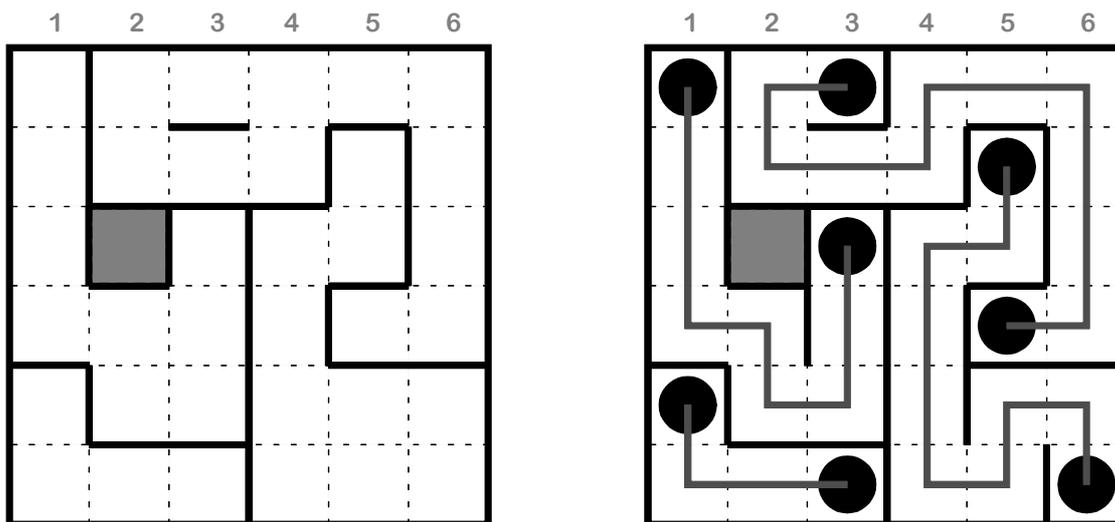
Example: 5,1121,221,113

7-9 Rassi Silai

2 + 6 + 5 points

Thread a rope in each region. A rope is a path that passes through all cells of the region, between two cells that are end-points. End-points do not touch each other, even diagonally, even across regions. Some bars are given within some regions; there cannot be a path between the two cells on both sides of the bar. Ignore any shaded regions – there cannot be a rope in a shaded region.

The numbers at the top denote the column number and are used for the answer key.



Answer Key: For each row, enter the column number of the leftmost end-point. Enter 0 if there are no end-points in a row.

Example: 153513

10-11 Balance Loop Instructionless

5 + 11 points

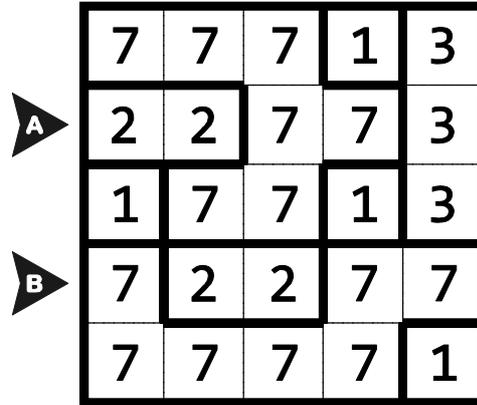
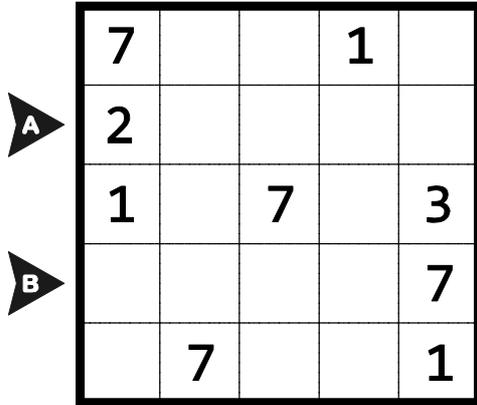
The rules of this puzzle vary slightly from the Balance Loop rules. One example with solution will be given in the puzzle booklet to demonstrate the changes in the rules. It is part of solving process to determine the rule changes by exploring/solving the example. There will not be any worded instruction in the puzzle booklet for this puzzle.

Answer Key: For each row, enter the length of the largest horizontal loop segment. Enter 0 if there are no horizontal loop segments in a row.

12-14 Fillomino

2 + 3 + 5 points

Divide the grid along the dotted lines into polyominoes so that no two polyominoes with the same area share an edge. Each given number must represent the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers.



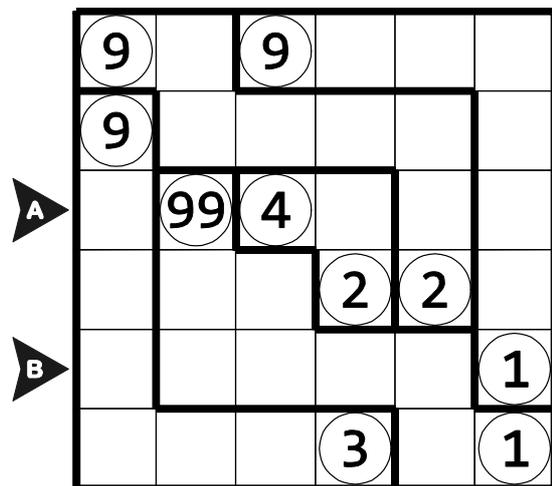
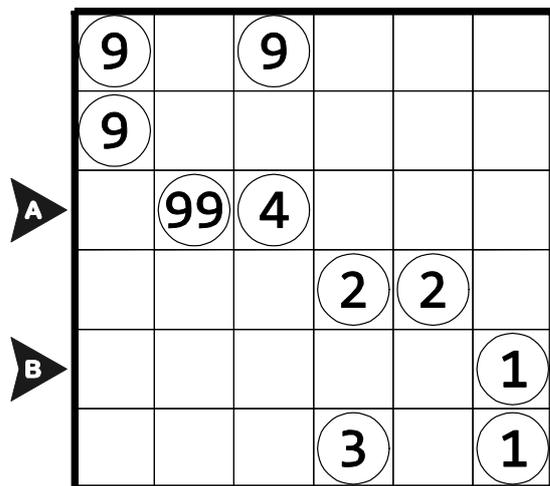
Answer Key: For each cell in the marked rows/columns (left to right/ top to bottom), enter the area of the polyomino it belongs to. For two-digit numbers, enter only the unit's digit.

Example: 22773,72277

15-17 Araf

2 + 4 + 4 points

Divide the grid into some regions containing two circles each. Each cell of the grid is part of one region. Each region must have an area that is strictly between the numbers in the circles contained in it. This means, for two number clues A and B with $A < B$, the area C fulfils $A < C < B$.



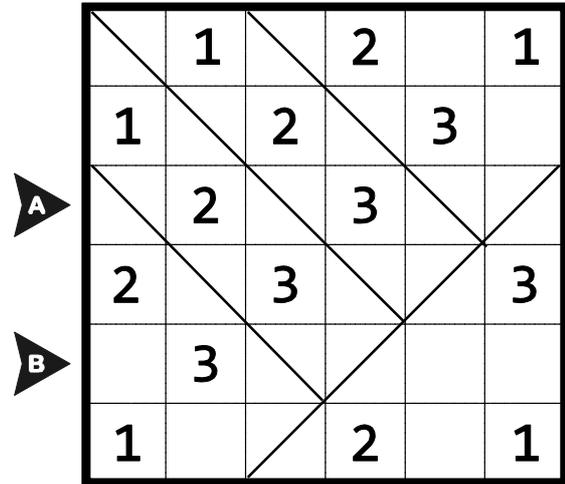
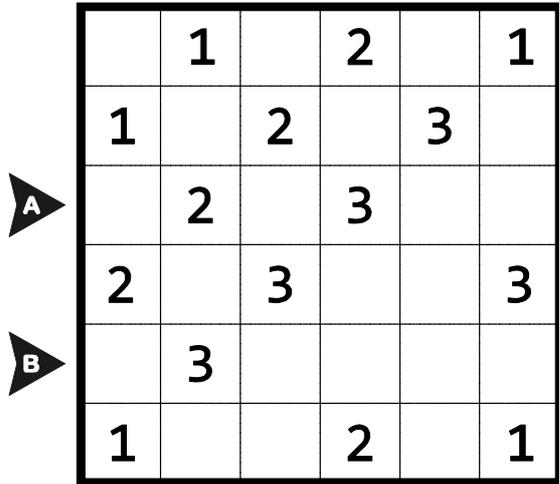
Answer Key: For the marked rows/columns, enter the number of consecutive cells in each region from left to right/top to bottom. Enter only the unit's digit for double digit numbers.

Example: 11211,141

18-20 Slash Pack

1 + 2 + 2 points

Divide the grid into regions by adding diagonals into empty cells. Two diagonals cannot cross in one cell, and there can be no loose ends. Each region must contain the numbers 1 to N exactly once (where N is the largest number in the grid.)



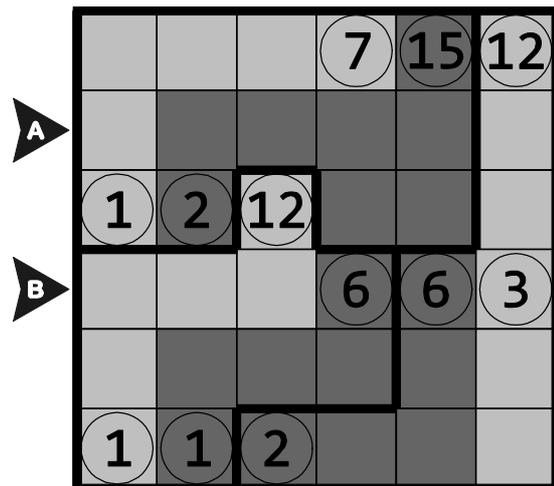
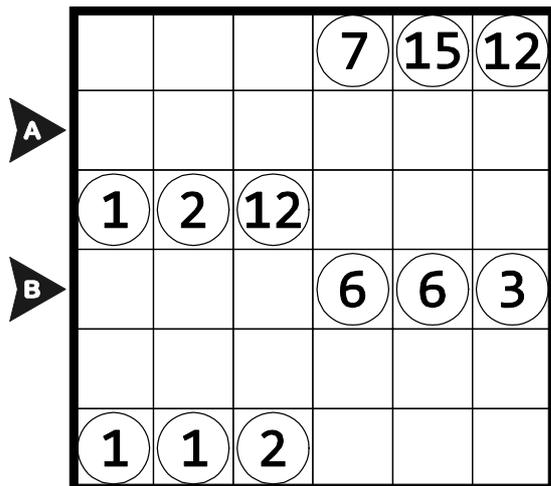
Answer Key: Enter the contents of the marked rows/columns from left to right/top to bottom. Use '-' for an empty cell, 'f' for '!', and 'b' for '\'.

Example: b2b3bf,-3bf--

21-22 Araf Squared

9 + 12 points

Divide the grid into some regions containing four circles each. Each cell is part of one region. Each region must have an area that is strictly between the smallest and the largest of the numbers in the circles contained in it. Further to this, each region must also be divided into two sub-regions, each containing exactly two given numbers, and each having an area strictly between the two numbers they contain.



Answer Key: For the marked rows/columns, enter the number of consecutive cells in each sub-region from left to right/top to bottom. Enter only the unit's digit for double digit numbers.

Example: 141,3111