

# Indian Puzzle Championship 2015

09-Aug-2015

<http://logicmastersindia.com/2015/IPC/>

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## Important Links

Submission: <http://logicmastersindia.com/2015/IPC/>

Discussion: <http://logicmastersindia.com/t/?tid=1003>

Results: <http://logicmastersindia.com/2015/IPC/score.asp>

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

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

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## About Indian Puzzle Championship (IPC) 2015

The Indian Puzzle Championship 2015 will be held online on 9<sup>th</sup> August, 2015. Participation is free of cost and everyone is invited to participate in the event irrespective of age. There are no prerequisites/requirements for participation. All you will need to do is register at Logic Masters India (LMI).

Top competitors will represent India at the World Puzzle Championship 2015 which will be held in Sofia, Bulgaria in October, 2015.

## Participation

This instruction booklet lists all the puzzle types that will appear in IPC. It is important to read and understand rules of all the puzzles. There will not be any interface / applet to solve the puzzles on web browser. The puzzle booklet should be downloaded, printed and solved on paper. Each puzzle has 1 or 2 answer keys. After solving the puzzle, you need to submit the puzzle using the answer keys.

On 9<sup>th</sup> August at 14:00 hours, you need to login on the IPC webpage at LMI using your id and password. Once you click on 'Start', you will be shown the password for the puzzle booklet. Your timer will start at this point.

The puzzle booklet will have approximately 16 pages. Most of the puzzles are designed to be solved faster on paper. We advise you to have a printer accessible with enough paper.

## Timings

The length of the championship is 150 minutes. So, after getting the password, you have 150 minutes to print the puzzles, solve them, find the answer keys and submit your answers. Submissions will not be accepted after 150 minutes.

IPC 2015 will start on 9<sup>th</sup> August at 14:00 hours IST. Answer submissions will not be accepted after 16:45 hours (or 150 minutes after you start, whichever is earlier). You must start accordingly to allow yourself full solving time.

## International Participation

IPC will be open for a longer period for international players to participate at their own convenience. Indians participating out of the official period will not be considered for official Indian ratings.

## Outside Help

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.



## Judging

All entries and scores are subject to review for rules compliance. Winners may be asked to sign an affidavit confirming that they did, in fact, abide by the rules of the competition. The organizers reserve the right to disqualify any contestant if, in their sole judgment, they believe the rules have been violated.

In case of a dispute, protest, or other judgment, the decision of the judges is final.

## Ranking

Ranking will be based on following rules in order:

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

## About answer keys and Submission

1. You may submit the answer keys anytime during the test duration of 150 minutes. You may consider submitting a puzzle as soon as you solve it.
2. Answer keys are always to be entered from left to right or top to bottom
3. Don't enter any separator unless specified in the answer key
4. If one row and one column is marked, enter the row first and then the column
5. If multiple rows are marked, enter from top to bottom for marked rows
6. If multiple columns are marked, enter from left to right for marked columns
7. If horizontal and vertical keys are needed, first enter the horizontal and then the vertical
8. Uppercase or lower case of answer key does not matter
9. Characters other than alphabets, numbers and comma will be removed while checking the answer

## Acknowledgements

Logic Masters India thanks the following puzzle solvers for helping us organize Indian Puzzle Championship 2015.

Bastien Vial-Jaime  
Bram De Laat  
Tiit Vunk  
Vladimir Portugalov

## Only for Indian Participants

1. Submissions until 16:45 on 9<sup>th</sup> will be considered for official scoring.
2. The organizers do not anticipate any technical problems during the championship. However, if you face any problems while submitting the answers, you may email your answers to [logicmasteradmin@gmail.com](mailto:logicmasteradmin@gmail.com) before 16:45 pm. Submissions via email is discouraged and will be accepted only in exceptional cases.



## Scoring

## Points Table

A1 - Split Rectangles	14	A2 - Squares Count	41	A3 - Unscramble	18
A4 - Identical Pairs	18	A5 - Surprise	26		
B1 - As Easy As ABC	13	B2 - As Easy As ABC	31	B3 - Easy As ABC [Numbers]	45
C1 - Kakuro	39	C2 - Kakuro	80	C3 - Gapped Kakuro	70
D1 - Statue Park	13	D2 - Statue Park	10	D3 - Statue Park	19
E1 - Regional Star Battle	12	E2 - Regional Star Battle	24		
F1 - Fillomino	25	F2 - Fillomino	25	F3 - Fillomino [Stars]	84
G1 - Not Alone	26	G2 - Not Alone	36		
H1 - Tapa	8	H2 - Tapa	24	H3 - Full Tapa	70
I1 - Balance Loop	14	I2 - Balance Loop	11	I3 - Balance Loop	38
J1 - Slitherlink	13	J2 - Slitherlink	54	J3 - Loop The Loops	35
K1 - 3-point Snake	16	K2 - 3-point Snake	11		
L1 - LITS	12	L2 - LITS	16	L3 - Outside LITS	9

Each puzzle is allotted points. You will get full points if you enter the correct answer key. Points typically indicate difficulty of the puzzles and time required to solve them. However, your personal experience may differ.

## Instant Grading

This test uses Instant Grading where a solver can submit any individual puzzle once finished and receive confirmation on whether it's correct or not. The first, second, third and fourth incorrect submission reduces the potential score to 90%, 70%, 40% and 0% respectively (and remains at 0% after this).

## Bonus

- ↗ Players submitting all 35 puzzles correctly are eligible for bonus points.
- ↗ Bonus will be computed upto seconds.
- ↗ There will not be any "Claim Bonus" button.

## Goals of the IPC

- ↗ To determine the National Champion by testing participants with puzzles of varying difficulty.
- ↗ To select the Indian team for the World Puzzle Championships, by testing endurance and adaptability to various different puzzle types.
- ↗ To have enough for newcomers to be able to attempt, by having a simple, accessible puzzle in most types.

## Other Notes

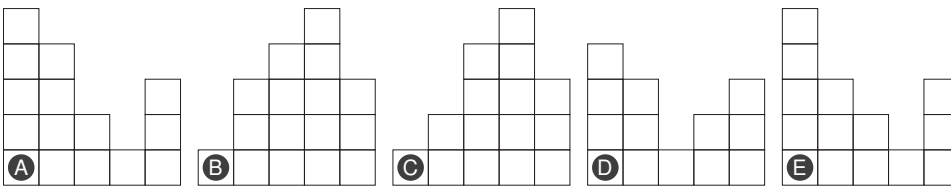
- ↗ To achieve all the goals simultaneously, there has been an effort to increase variety as well as number of easy puzzles. Hence, the slightly larger quantity of puzzles. The focus is to have something for everyone, be it logic-wise or difficulty-wise.
- ↗ We would love to hear your feedback after the contest, in the discussion thread of the forum.
- ↗ Good Luck and Skill to everyone. Enjoy the competition!



A1, A2, A3, A4, A5 – Hidden Pairs

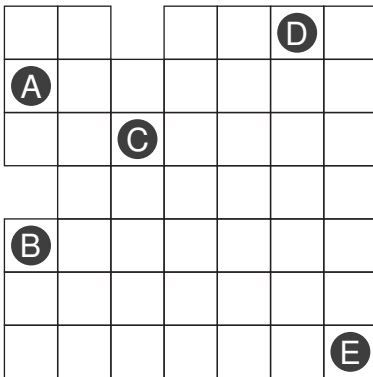
- Several figures will be given in each puzzle. The task is to form pairs, matching two sets of information. There will be one constant way to match them, either given or needing to be determined by the solver.
- If an odd number of figures is given, one figure will remain unused.

Split Rectangles



Pair the figures to form rectangles. Some figures may be rotated and/or reflected. The resulting rectangles may be of different dimensions.  
**Answer Key is AC, BE**

Squares Count



Pair the letters as per the number of “squares” they belong to.

**Answer Key is AB, DE**

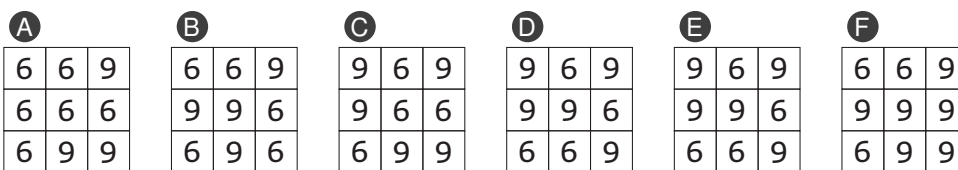
Unscramble

- A YXWVZ
- B UYZXV
- C UVZXW
- D ZYXWV
- E YXVUZ

Pair the figures after unscrambling i.e. find pairs which have same set of elements, not necessarily in same order.

**Answer Key is AD, BE**

Identical pairs



Pair the identical figures. Some of them may be rotated, but not reflected.

**Answer Key is AF, BC, DE**

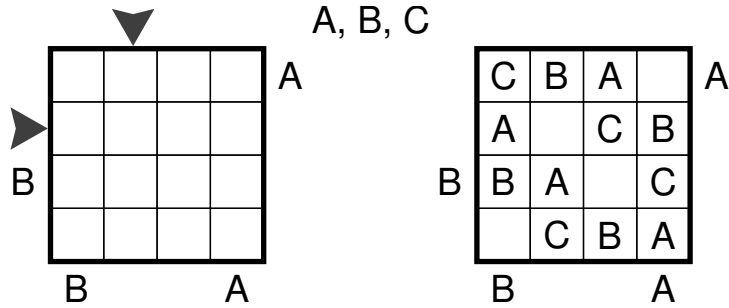
Surprise

This Hidden Pairs puzzle will be based on one of the puzzle types that is elsewhere in the Puzzle Booklet. The type will also need to be deduced looking at the images.



**B1, B2 – As Easy As ABC**

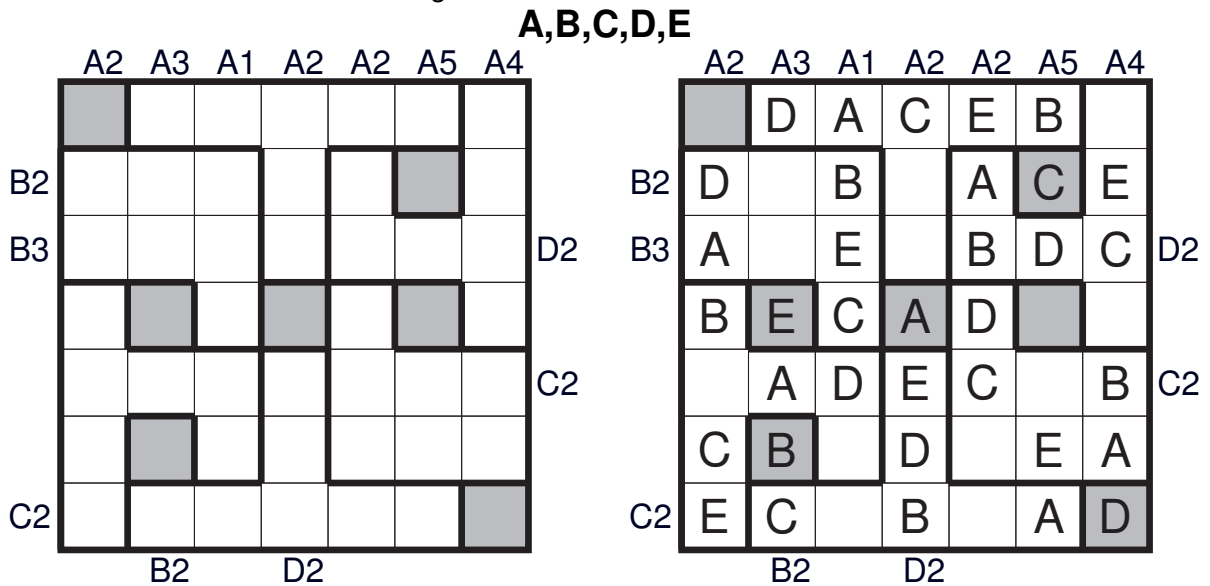
- ↪ Place a letter from the given set in some blank cells, so that each letter appears exactly once in each row and each column.
- ↪ Some cells will remain empty in each row and column.
- ↪ The letters outside the grid show the first seen letter from that direction.



**Answer Key:** Enter the letters in the marked directions. Enter X for blank cells.  
 For the example, the answer key is AXCB,BXAC

**B3 – As Easy As ABC [Numbers]**

- ↪ Enter the letters from the given range into the grid so that each row, column, thick-outlined region and the set of shaded cells contains each letter exactly once
- ↪ Some cells will remain empty.
- ↪ Letters 'x' and numbers 'n' outside the grid indicate that 'x' is the 'n'th letter in that row or column.

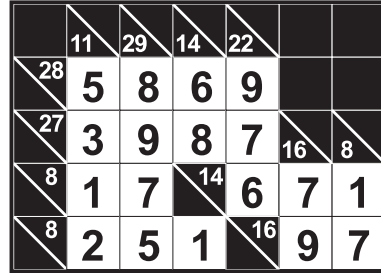
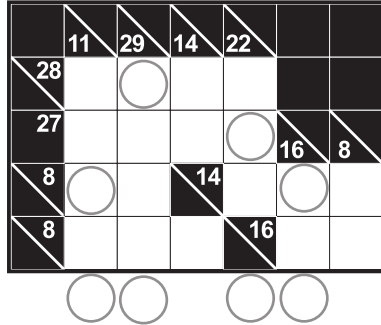


**Answer Key:** Same as B1,B2 – As Easy As ABC



### C1, C2 – Kakuro

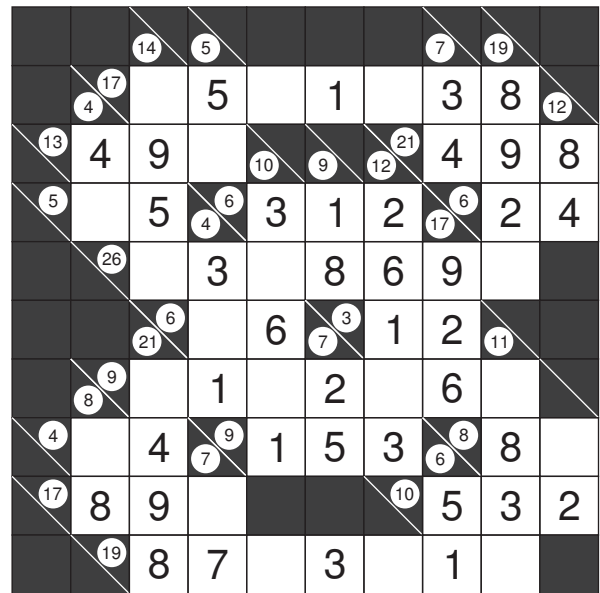
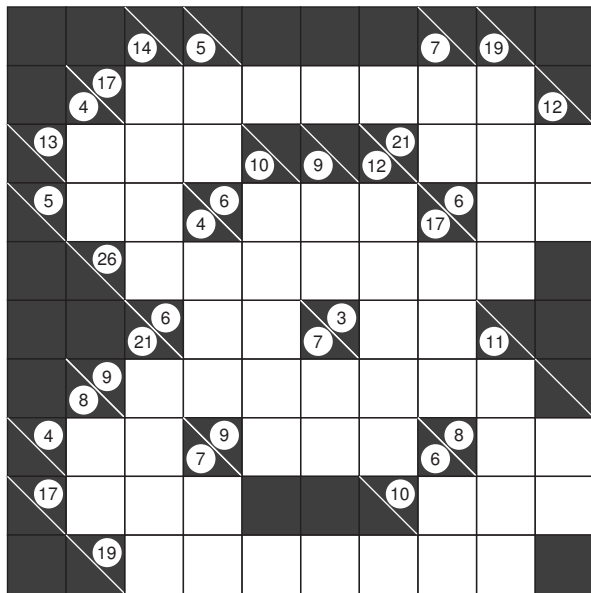
- ↻ Place a digit from 1 to 9 in each white cell
- ↻ Sum of each horizontal/vertical group of cells equals the number given on its left/top.
- ↻ Digits must not repeat within such group.
- ↻ Ignore the circles while solving. They are used for answer key purposes only.



**Answer Key:** Enter the digits in the circled cells, from left to right.  
For the example, the answer key is 1877.

### C3 – Gapped Kakuro

- ↻ Apply rules of C1, C2 – Kakuro.
- ↻ The difference is, some white cells can remain blank.
- ↻ Blank cells cannot share an edge.



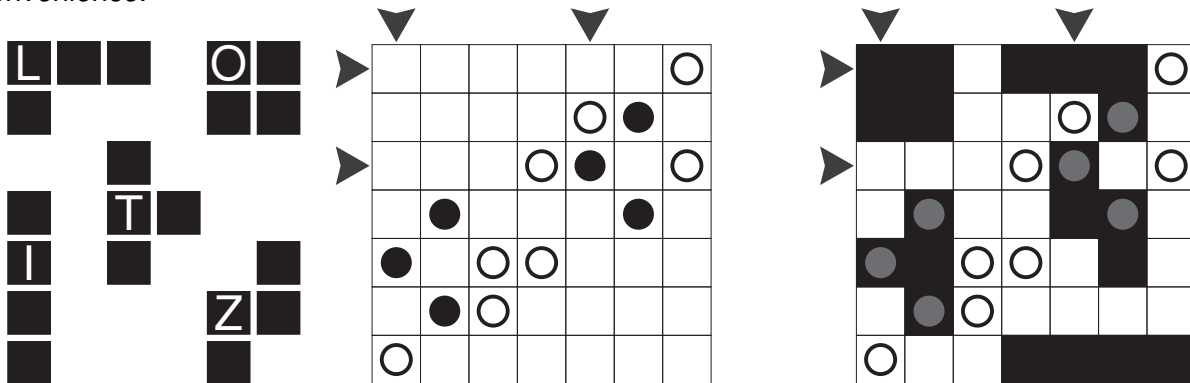
**Answer Key:** Same as C1, C2 – Kakuro. Enter '0' for blank cells.



D1, D2, D3 – Statue Park

- ↪ Place each of the shapes from the given bank of shapes exactly once into the grid, with rotations and reflections allowed.
- ↪ No two shapes can overlap or be orthogonally adjacent, and all of the space not occupied by shapes must be connected.
- ↪ Black circles in the grid represent spaces that must be contained in one of the shapes, and white circles represent spaces that must not be contained in a shape.

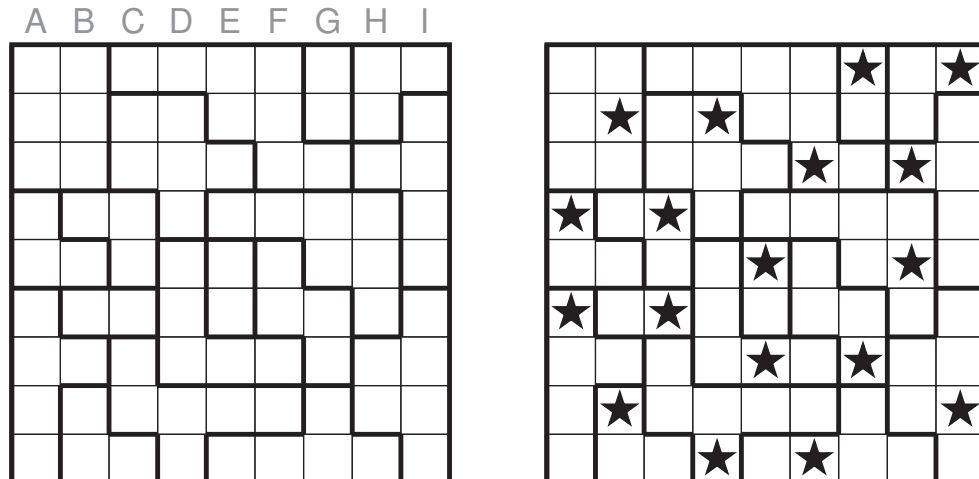
Note: Example contains a full Tetromino bank. In the contest puzzles, one will be a Tetromino bank, the other a Pentomino bank and the third one is a surprise bank, which will also be labeled for answer key convenience.



**Answer key:** Enter the first three shapes seen along the marked rows & columns. (– if not enough shapes). For the example the answer key is OL-, Z--, OT-, LSI

E1, E2 – Regional Star Battle

- ↪ Place 2 stars in each row and each column.
- ↪ Stars do not touch each other, not even diagonally.
- ↪ Each outlined region contains same number of stars.



**Answer Key:** For each row from top to bottom, enter the column position of left most star. For the example, the answer key is GBFAEAEBD





### F1,F2 – Fillomino

- ↪ Divide the grid along the dotted lines into regions called polyominoes so that no two polyominoes with the same area share an edge.
- ↪ Inside some cells are numbers; each number must represent the area of the polyomino it belongs to.
- ↪ A polyomino may contain zero, one, or more of the given numbers.
- ↪ Ignore the circles while solving.

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

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

**Answer key: Same as C1, C2 – Kakuro.**

### F3 – Fillomino [Stars]

- ↪ Apply rules of F1, F2 – Fillomino.
- ↪ Additionally, in each row and column, there must be two cells (one cell in the example) which are not covered by the polyominoes and instead contain a star.
- ↪ As with Star Battle, the stars cannot touch each other, not even diagonally.

	4			1	
4		4			1
	4				3
			4		
4					
	4	4			3

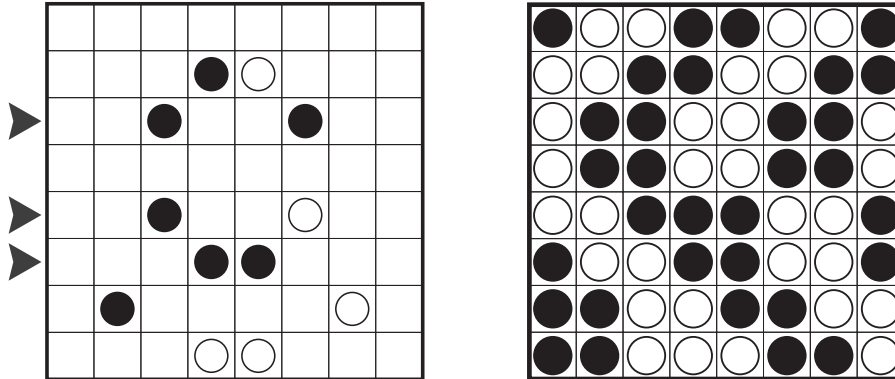
1	4	4	4	1	★
4	★	4	1	3	1
4	4	2	★	3	3
★	4	2	4	4	4
4	1	★	4	3	3
4	4	4	1	★	3

**Answer key: Same as C1, C2 – Kakuro. Enter '0' for cells with stars.**



## G1, G2 – Not Alone

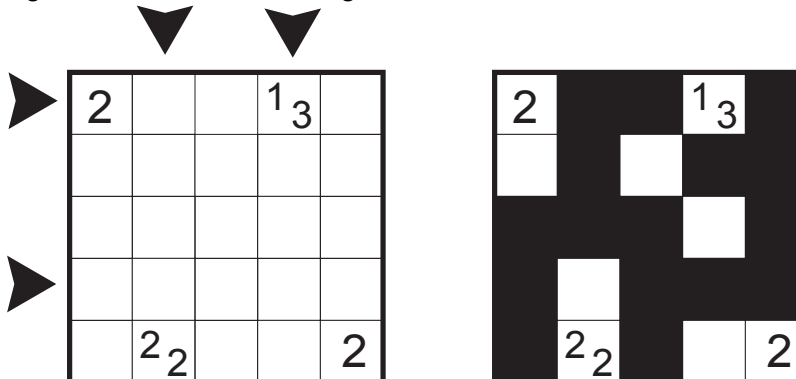
- ↪ Fill the grid with black or white circles so that each row or column has the same amount of black circles and white circles.
- ↪ One circle of a colour can't be sandwiched by circles of the other colour horizontally or vertically.
- ↪ An array of two or more circles of a same colour may be sandwiched by circles of the other colour horizontally or vertically.



**Answer key:** For each marked row, enter the length of each contiguous set of circles of the same colour.  
For the example, the answer key is 12221, 2321, 12221.

## H1, H2 – Tapa

- ↪ Paint some cells black to create a continuous wall.
- ↪ Number(s) in a cell indicate the length of black cell blocks on its neighbouring cells.
- ↪ If there is more than one number in a cell, there must be at least one white cell between the black cell blocks.
- ↪ No 2X2 square can have all black cells.
- ↪ There is no wall segment on cells containing numbers.

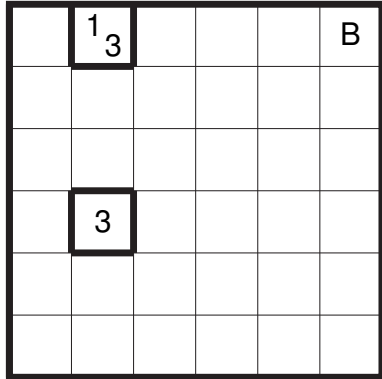


**Answer key:** Enter the length of longest horizontal/vertical shaded cell block for each of the marked rows.  
For the example answer key is 23, 31

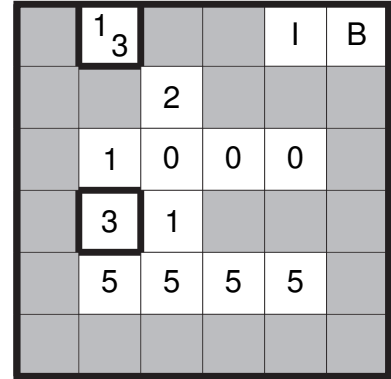


### H3 – Full Tapa

- ↻ Apply rules of H1, H2 – Tapa.
- ↻ Enter the given ‘words’ (or numerals) once each into the entirety of the empty cells.
- ↻ Words must be written either across or down, and all words formed by consecutive letters in the grid must appear in the word list.
- ↻ Some letters are given, but all given digits are Tapa clues.



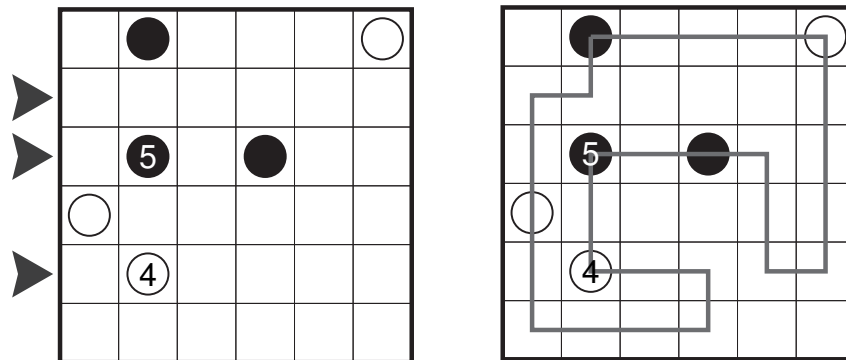
IB  
2015  
1000  
5555



**Answer key:** Enter the content of the marked rows. For cells that are shaded or contain a clue, use “-”.

### I1, I2, I3 – Balance Loop

- ↻ Draw a single, non-intersecting loop that passes through all circled cells.
- ↻ 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.

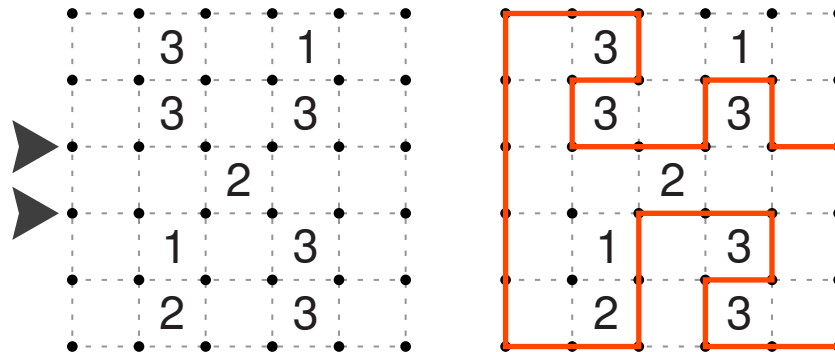


**Answer key:** For each marked row/column, enter the length of the longest horizontal/vertical loop segment. For the example, answer key is 132.



### J1, J2 – Slitherlink

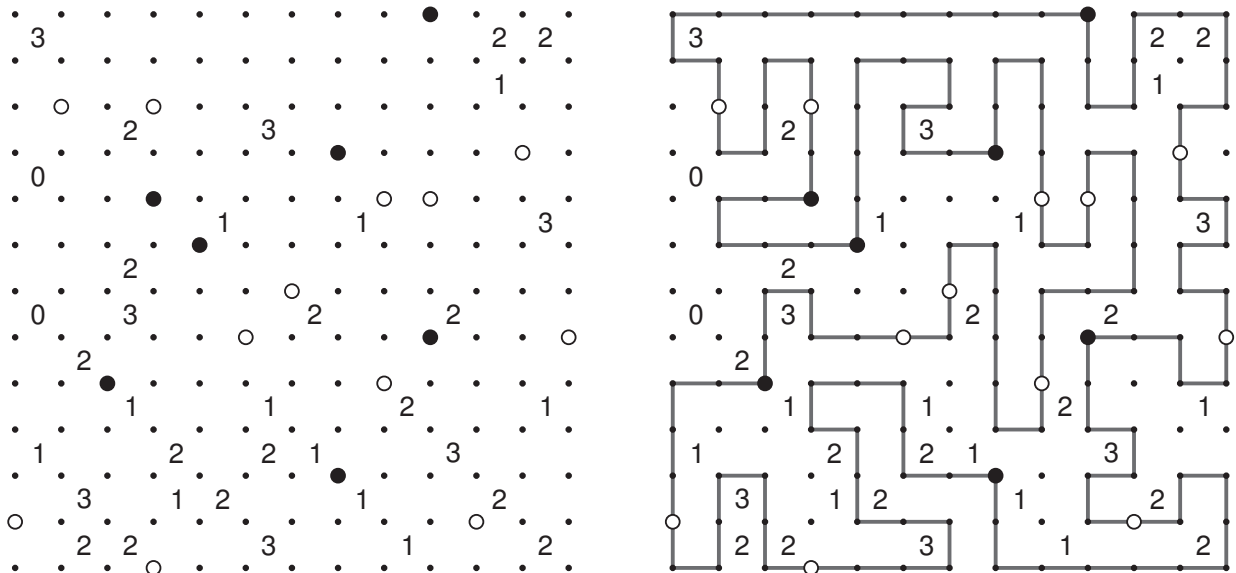
- ↻ Draw a single continuous loop along the dotted line segments.
- ↻ The loop cannot intersect or collide with itself.
- ↻ Clues given inside the cell indicate the count of line segments surrounding the cell that are part of the loop.



**Answer Key:** For each marked row/column, enter the length of the longest horizontal/vertical loop segment.  
For the example, the answer key is 22.

### J3 – Loop The Loops

- ↻ Apply rules of J1, J2 – Slitherlink.
- ↻ Some circles (either white or black) also appear in the grid as clues; as in a Masyu puzzle, the loop must pass through all of these circles.
- ↻ When passing through a black circle, the path must make a 90 degree turn and extend at least two dots in both directions.
- ↻ When passing through a white circle, the path must go straight and must turn at least one of the adjacent dots.

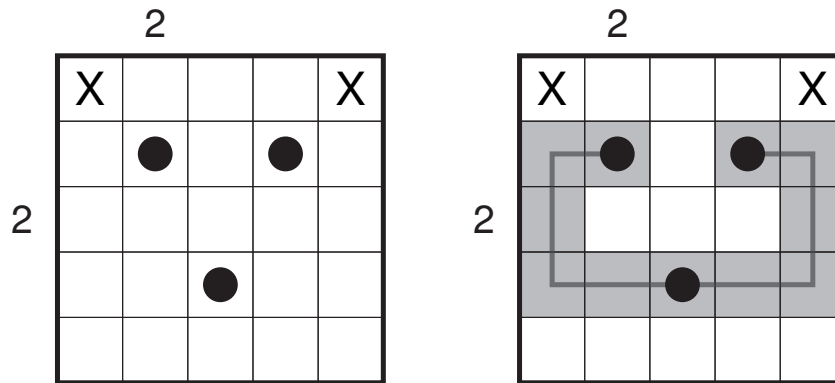


**Answer Key:** Same as J1, J2 – Slitherlink



## K1, K2 – Three-Point Snake

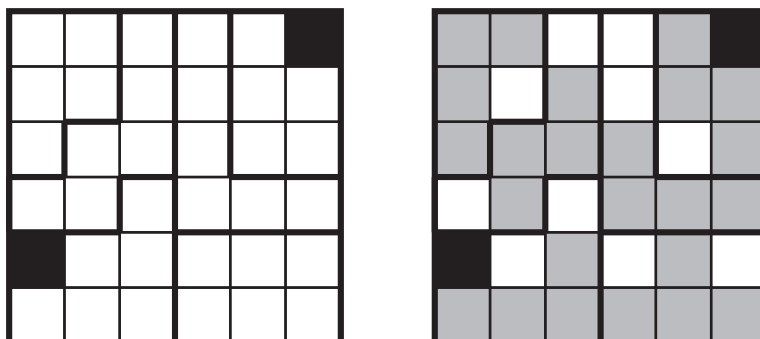
- ↪ Locate a snake of one-cell width in the grid, whose head, tail and center are given, but length is unknown (i.e. the length always has to be odd).
- ↪ It is part of the puzzle to determine which circle is the center and which ones are the two extremities.
- ↪ The snake does not touch itself even at a point.
- ↪ Numbers outside the grid indicate sum of the lengths of snake segments in the corresponding direction.
- ↪ A cell with an X cannot contain the snake.



**Answer Key:** Same as H1, H2 – Tapa (with snake segments being “shaded” and other cells being “un-shaded”)

## L1, L2 – LITS

- ↪ Shade exactly four connected cells in each outlined region, to form an L, I, T, or S tetromino, so that the following conditions are true:
- ↪ All shaded cells are connected with each other.
- ↪ No 2×2 group of cells can be entirely shaded black.
- ↪ When two tetrominoes in adjacent regions share an edge, they must not be of the same type (L, I, T, or S), regardless of rotations or reflections.
- ↪ Black cells cannot be shaded.

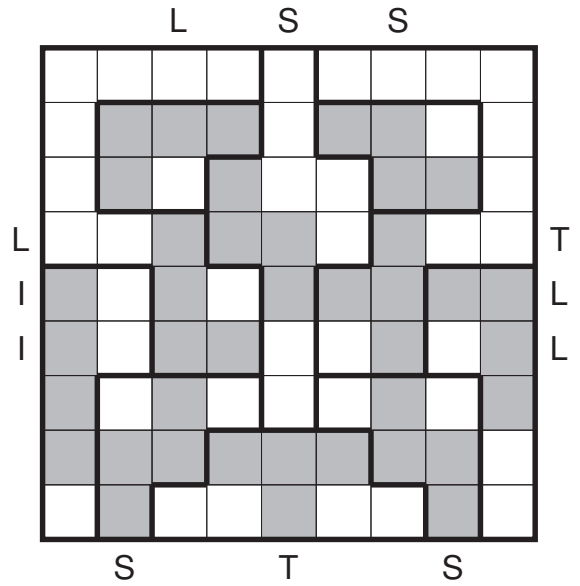
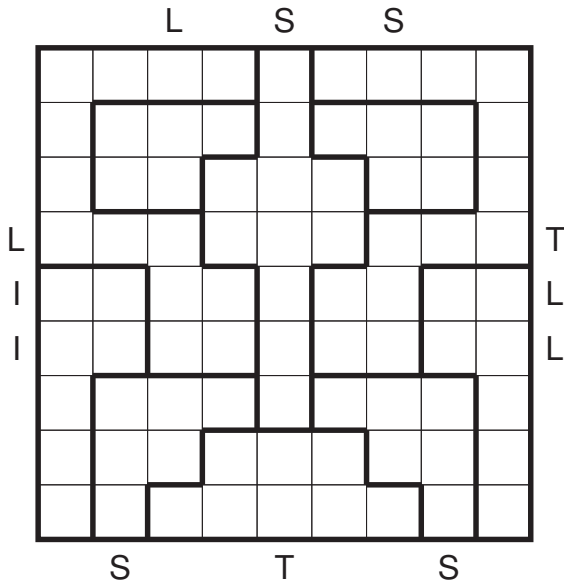


**Answer Key:** Same as H1, H2 – Tapa.



L3 – Outside LITS

- ↗ Apply rules of L1, L2 – LITS.
- ↖ Also, the letters outside the grid indicate the first tetromino encountered in the corresponding direction.



**Answer Key:** Same as H1, H2 – Tapa.

