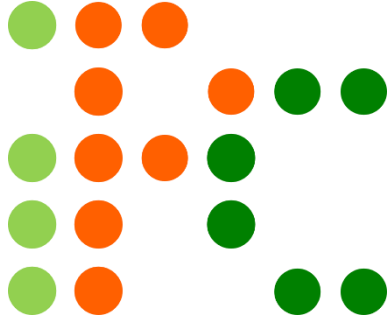


# 2023 Indian Puzzle Championship

## Instructions Booklet

27<sup>th</sup> May 2023, Mumbai



पुझी  
त्रलव्युव

### Round Composition at a glance:

**Round 1:**  
**Memory Lane**  
**12 puzzles**  
**45 minutes**  
**Points: 450**

<b>Puzzles</b>	<b>Points</b>
<b>Snake</b> (Classics)	25
<b>Cave [Product]</b> (Classics)	45
<b>Skyscrapers</b> (Evergreens)	35
<b>Rule Pool</b> (Rule Pool)	30
<b>Mochinyoro</b> (Shading)	30
<b>LUZ Loop</b> (MII)	45
<b>Sukoro</b> (Number Placement)	55
<b>Pentopia</b> (Object Placement)	25
<b>Curve Data</b> (Casual)	60
<b>Word Labyrinth</b> (Word)	25
<b>Sashigane</b> (Regions)	50
<b>Reflect Link</b> (Loops)	25
<b>Total</b>	450

**Round 2:**  
**As Good As  
 New**  
**13 puzzles**  
**50 minutes**  
**Points: 500**

<b>Puzzles</b>	<b>Points</b>
Star Battle (Classics)	25
Masyu [Deformable] (Classics)	50
Yin Yang (Evergreens)	20
Rule Pool A & B (Rule Pool)	30+10
Canal View (Shading)	55
Akichiwake (MII)	50
Kakuro (Number Placement)	85
Shakashaka (Object Placement)	25
Letter Weights (Casual)	20
Snaky Search (Word)	20
Symmarea (Regions)	90
Castle Wall (Loops)	20
<b>Total</b>	<b>500</b>

**Round 3:**  
**6 of 1...**  
**42 puzzles**  
**60 minutes**  
**Points: 900**

<b>Puzzles</b>	<b>Points</b>
Double Choco	13+14+11+10+8+11
Shikaku	80 *partial points available
Remembered Length	12+10+27+16+12+18
Rail Pool	95 *partial points available
Kurodoko	10+7+12+13+12+7
Cave	65 *partial points available
Number Rope	18+22+9+23+29+12
RingRing	60 *partial points available
Voxas	12+12+7+10+13+9
Guide Arrow	70 *partial points available
Midloop	9+5+9+4+4+5
Balance Loop	95 *partial points available
<b>Total</b>	<b>900</b>

**Round 4:**  
**Relax**  
**11 puzzles**  
**45 minutes**  
**Points: 450**

<b>Puzzles</b>	<b>Points</b>
Password Battleships	15
Password Battleships	60
Finishing Touch	15
Canadian Trek	90
Canadian Trek	55
Pieces of Eight	20
Pieces of Eight	25
Pieces of Eight	35
Hidden Words	45
Snakes and Ladders	20
Hive Mind	70 *partial points available
<b>Total</b>	<b>450</b>

**Acknowledgments:**

LMI Thanks the following puzzlers for their involvement in putting this competition together

**Rounds 1-3 –**

**Authors: Chandrachud Nanduri (India), Chiel Beenhakker (Netherlands), Jeffrey Bardon (USA), Jovi G. (USA), Madhav Sankaranarayanan (India), Martin Ender (Germany), Murat Can Tonta (Turkey), Walker Anderson (USA)**

**Curator/Editor: Prasanna Seshadri (India)**

**Testers: Chiel Beenhakker, Jeffrey Bardon, Prasanna Seshadri, Viktor Samu (Hungary), Walker Anderson, Aubin Danzo (France)**

**Round 4 –**

**Author & Editor: Tawan Sunathvanichkul (Thailand)**

**Testers: Prasanna Seshadri, Viktor Samu, Aubin Danzo**

**Tie Breakers & Bonus Points:**

- In case of a tie, the participant with the higher score in Round 3 will rank higher. If there is still a tie, we will look at Round 2, then Round 1. If there is still a tie, a tie-breaker puzzle will be used if the position in question is relevant to the team selection positions or the Puzzle Ramayan playoffs.
- If all puzzles are solved correctly in a round, the participant will score an additional 10 points per minutes saved. This is separate from the Round 3 bonuses.

## Schedule

Time	Activity
9:00-9:30	Distributing welcome kits, completing registration
9:30-10:15	Q & A
10:30-11:15	Round 1
11:30-12:20	Round 2
12:20-1:40	Lunch
1:40-2:40	Round 3
2:55-3:40	Round 4
4:00-4:30	Fun Event
4:40-5:30	PR Playoffs
5:30-6:00	Results & Prize Distribution

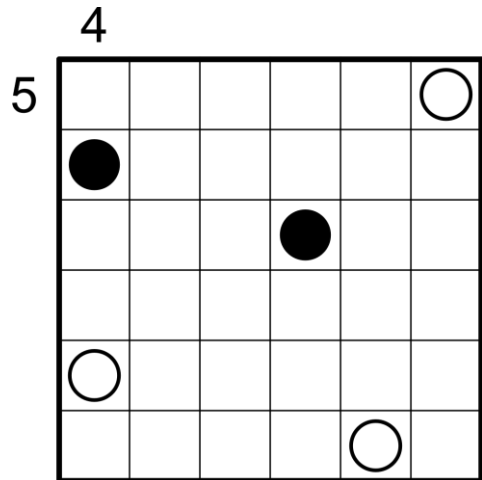
# Round 1: Memory Lane

**Round Description:** This round contains puzzle genres that were seen over the course of the Puzzle Ramayan online rounds. Their respective categories are mentioned in brackets. In case of Made In India, we have also specified the original inventor.

## 1 Snake (Classics)

25 points

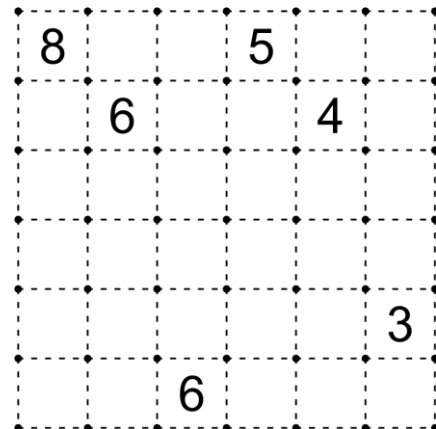
Shade some cells to form a non-intersecting path of 1-cell width which does not touch itself, not even diagonally. A black circle must lie on an end of the path. A white circle must lie somewhere along the path, but not at an end. A number outside the grid represents how many cells in the corresponding row or column are shaded.



## 2 Cave [Product] (Classics)

45 points

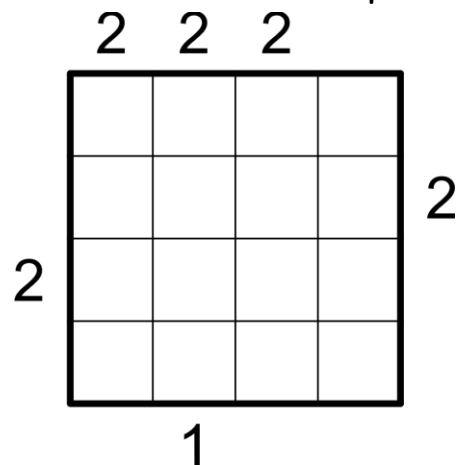
Shade some cells so that the shaded cells are all connected orthogonally by other shaded cells to the edge of the grid, and the remaining unshaded cells form one orthogonally connected area. Clues cannot be shaded, and represent the product of the number of unshaded cells that can be seen in a straight line vertically, including itself, and the number of unshaded cells that can be seen in a straight line horizontally, including itself.



## 3 Skyscrapers (Evergreens)

35 points

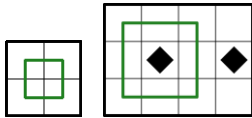
Place a number from 1 to N into each cell so that each row and column contains every number from that range with no repeats, where N is the side length of the grid. A clue outside the grid represents how many cells in the corresponding row or column contain a larger number than all cells before it in that row or column from the direction of the clue.



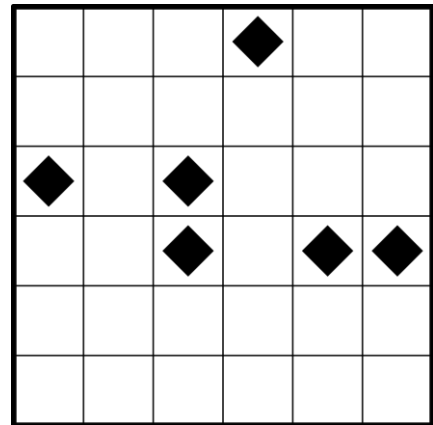
## 4 Rule Pool (Rule Pool)

A pool of rules will be given as a separate sheet. The pool will be made up of different images, each depicting a different rule, which will be explained to its right. The puzzle will contain a mash-up of some of these rules, and adapting to the ruleset is part of solving.

Example Rules:



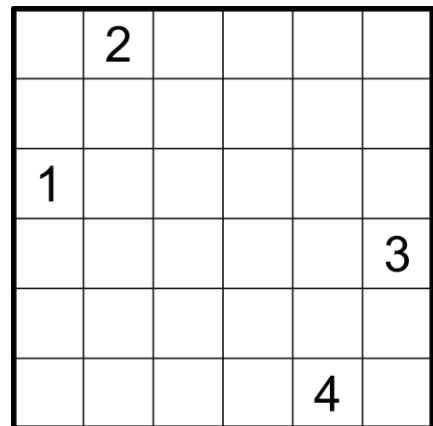
30 points



## 5 Mochinyoro (Shading)

Shade some cells so that all areas of orthogonally connected unshaded cells are rectangular and all areas of orthogonally connected shaded cells are not rectangular. No 2x2 region may be entirely shaded. The unshaded rectangles must all be connected diagonally. Clues cannot be shaded, and represent the number of cells in the unshaded area they belong to. An unshaded area of cells cannot contain more than one clue.

30 points



## 6 LUZ Loop (MII – Pranav Kamesh S)

Draw a non-intersecting loop through the centers of some cells passing through every circle.

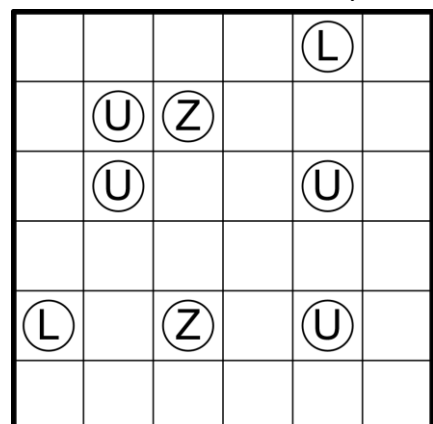
The loop turns on circles marked with L and goes straight through circles marked with U/Z.

When it passes through a Z it must turn in opposite directions on each side.

When it passes through a U it must turn in the same direction on each side.

There is no restriction on the distance a segment travels after passing through a U or Z before turning.

45 points

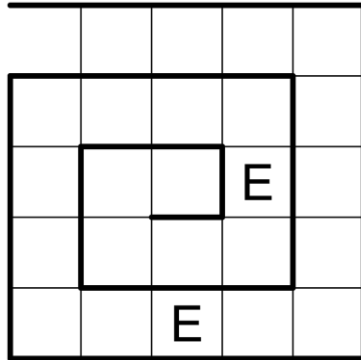




## 10 Word Labyrinth (Word)

25 points

Write all the given words into the grid. Each word must be readable following the spiral inwards and all letters of a word must appear in consecutive cells. Different words must be separated by at least one empty cell. Letters cannot appear more than once in any row or column. Some letters are already given.



JEDAN

DVA

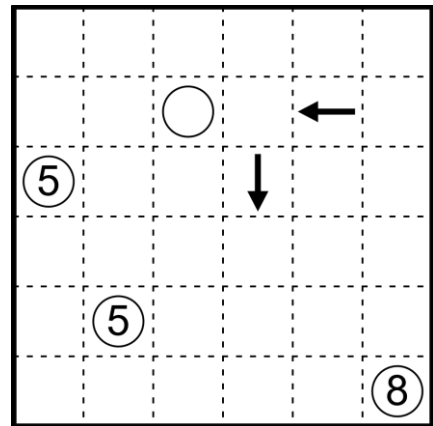
TRI

CETIRI

## 11 Sashigane (Regions)

50 points

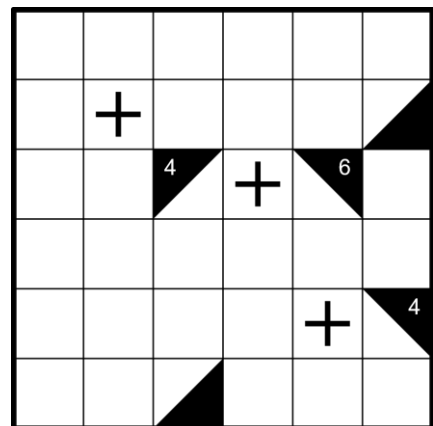
Divide the grid into regions of orthogonally connected cells. Each region must be an L shape with a width of one cell. Arrows must lie at one end of an L and point toward the bend. Circles must lie at the bend of an L, and if one contains a number, the L it's inside must contain the indicated amount of cells.



## 12 Reflect Link (Loops)

25 points

Draw a non-intersecting loop through the centers of some cells. Two perpendicular line segments must cross each other at given intersections, but nowhere else. Every triangle must be touched by the loop. Triangles reflect the loop at right angles, and a number in a triangle indicates the total number of cells that the lines coming out of it travel to before turning, including the cell the triangle is in.





## Round 2: As Good As New

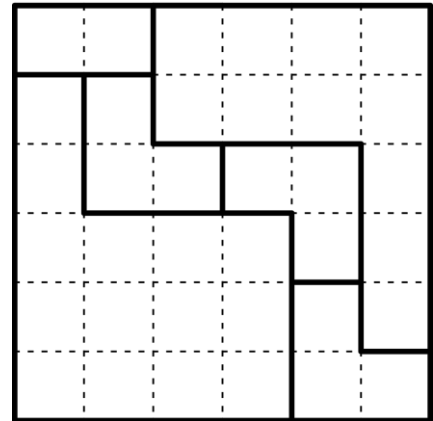
**Round Description:** This round contains puzzle genres that could belong to each category used in the online rounds, but did not appear this year in that particular category. In case of Made In India, we have also specified the original inventor.

### 1 Star Battle (Classics)

25 points

1★

Place stars into some cells such that each row, column, and outlined region contains exactly N stars. The value of N is given outside the grid. Stars may not touch one another, not even diagonally.

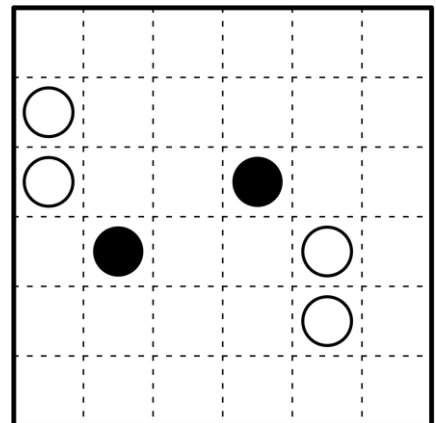


### 2 Masyu [Deformable] (Classics)

50 points

Draw a non-intersecting loop through the centers of some cells that passes through every circle. The loop must turn on black circles and travel straight through the cells on either side. The loop must go straight through white circles, and turn in at least one of the cells on either side.

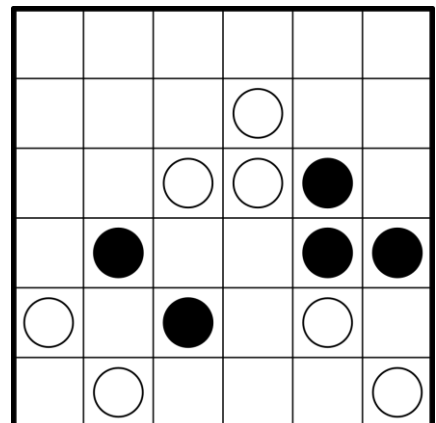
White circles may be shaded to change them into black circles.



### 3 Yin Yang (Evergreens)

20 points

Place a circle into each cell of the grid - some white and some black - such that all circles of the same type must lie in cells forming one orthogonally connected area. No 2x2 region may contain all one type of circle.

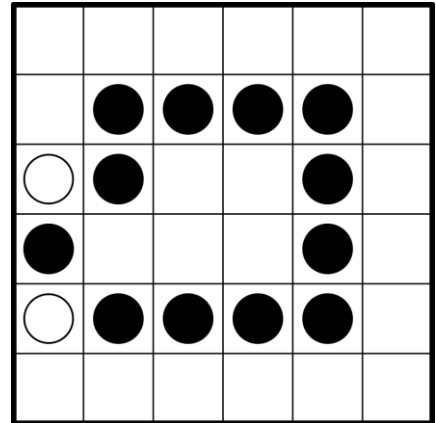
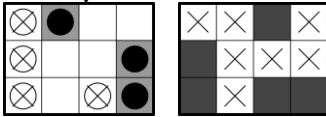


## 4 Rule Pool A & B (Rule Pool)

30+10 points

A pool of rules will be given as a separate sheet. The pool will be made up of different images, each depicting a different rule, which will be explained to its right. The puzzle will contain a mash-up of some of these rules, and adapting to the ruleset is part of solving.

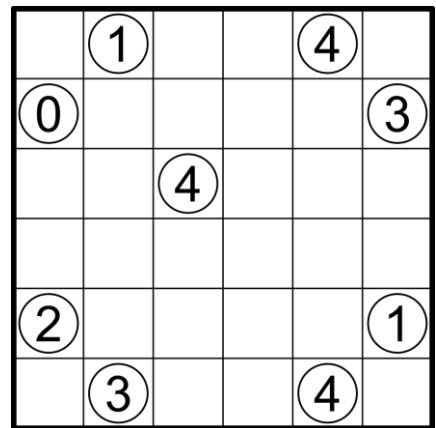
Example rules:



## 5 Canal View (Shading)

55 points

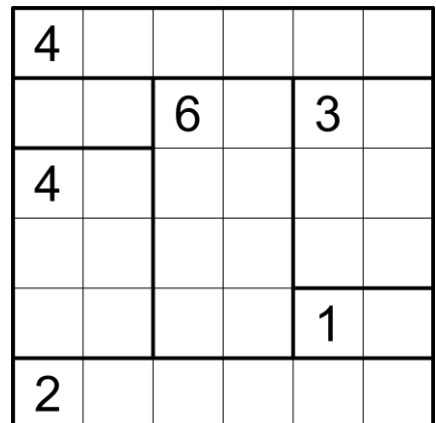
Shade some cells so that all shaded cells form one orthogonally connected area and no 2x2 region is entirely shaded. Clues cannot be shaded, and represent the number of shaded cells connected in a straight line horizontally or vertically to the clue.



## 6 Akichiwake (MII – Prasanna Seshadri)

50 points

Shade some cells so that no two shaded cells are orthogonally adjacent and the remaining unshaded cells form one orthogonally connected area. A number indicates the size of the largest group of connected unshaded cells within its region. A line of consecutive unshaded cells may not cross more than one bold border.



## 7 Kakuro (Number Placement)

85 points

Place a number from 1 to 9 into each empty cell so that no number is repeated in any unobstructed horizontal or vertical line. A clue on the bottom of a blocked cell represents the sum of the numbers in the vertical line below it. A clue on the right side of a blocked cell represents the sum of the numbers in the horizontal line to its right. Clues cannot see numbers through other blocked cells.

		17	13	26	27
	10				
23					
8					
17					
23					

## 8 Shakashaka (Object Placement)

25 points

Shade a right triangle in some empty cells, each of which occupies exactly half the cell it's in. Each unshaded area must be rectangular in shape. A number in a cell represents how many of the (up to) four cells orthogonally adjacent to the clue contain triangles.

			2		
0					
					1

## 9 Letter Weights (Casual)

20 points

Write a number under each letter (in each cell) so that the numbers corresponding to the letters in each given word have the given sum. Different letters must have different numbers. The range of allowed numbers is N where N is the number of letters used.

A	B	C	D	E

$$C + A + B = 11$$

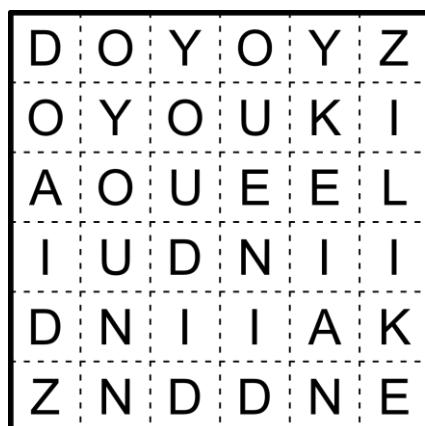
$$B + E + E = 7$$

$$A + B + E = 8$$

## 10 Snaky Search (Word)

20 points

Find the given list of words in the grid. Each word is in the form of a Snake. A snake can NOT touch/cross itself or other Snakes even diagonally. The letters in the Snake must follow the same order as the word.



DO

YOU

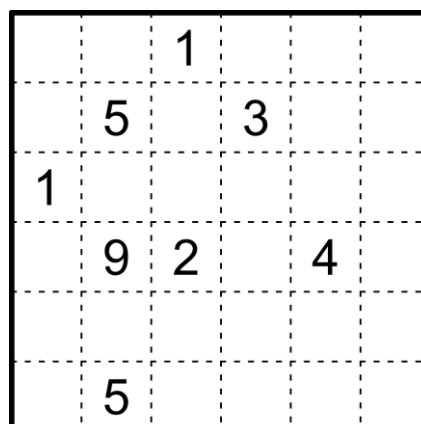
LIKE

INDIA

## 11 Symmarea (Regions)

90 points

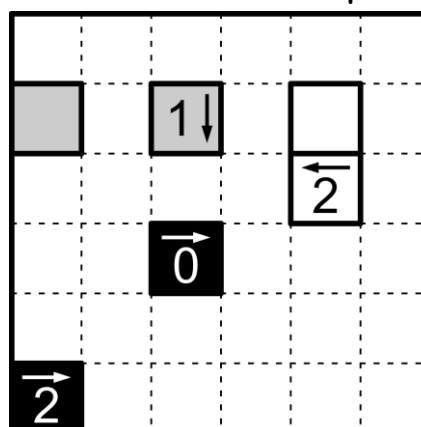
Divide the grid into regions of orthogonally connected cells. All regions must have 180° rotational symmetry. Two regions of the same size may not share an edge. Clued cells must belong to a region containing the indicated number of cells.



## 12 Castle Wall (Loops)

20 points

Draw a non-intersecting loop through the centers of some cells. The loop may not enter outlined cells or cells containing clues. White cells with outlines must lie inside the loop, while black cells with outlines must lie outside the loop. Grey cells may either be inside or outside the loop. A number represents the sum of the lengths of loop segments in the indicated direction.



## Round 3: 6 of 1...

**Round Description:** This round has 12 genres. Genres 1,3,5,7,9,11 will have 6 puzzles each, which are of size 6x6 or less, and may be a bit difficult for their size. Genres 2,4,6,8,10,12 will have 1 puzzle each, which are of a large grid size, which aren't that difficult for their size.

The challenge in this round is specialization. It is not meant to be finish-able. Bonus points will be awarded as shown in the tables below (these are the same as version 1 of the IB).

For each solver, only the larger bonus points they get will be awarded. I.e. if a solver's small puzzles bonus is 30 and their large puzzles bonus is 20, the bonus they will get is 30. So each solver has a choice of specializing in either small puzzles or large puzzles to optimize their points.

Partial points are available for the big puzzles. Each big puzzle will be divided into 6 parts using arrows outside the grid. If 5 of the parts are solved correctly, 80% of the points will be awarded for the puzzle. If 4 of the parts are solved correctly, 50% of the points will be awarded for the puzzle. Neither of these scenarios will have the puzzle count towards the "solved" count for the bonus.

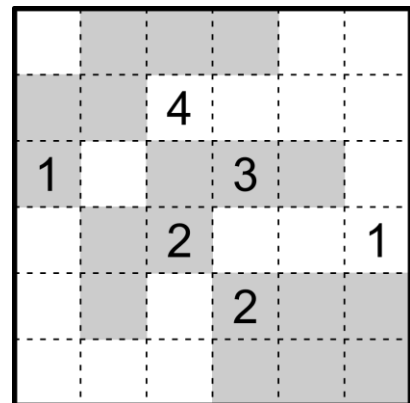
Small Puzzles	
Number of puzzles solved correctly	Bonus
6+	5
12+	10
18+	20
24+	30
30+	40
36	60

Large Puzzles	
Number of puzzles solved correctly	Bonus
1	5
2	10
3	20
4	30
5	40
6	60

## 1A-1F Double Choco

Divide the grid into regions of orthogonally connected cells, each containing a connected group of white cells and a connected group of grey cells, with the property that the shape of the white cells is identical to the shape of the grey cells, allowing rotations and reflections. Clued cells must belong to a region containing the indicated number of white cells and the indicated number of grey cells.

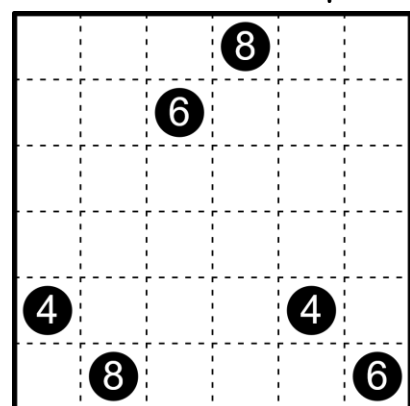
13+14+11+10+8+11 points



## 2 Shikaku

Divide the grid into rectangular regions of orthogonally connected cells. Clued cells must belong to a region containing the indicated number of cells.

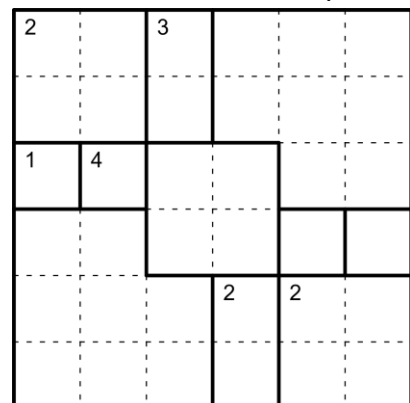
80 points



## 3A-3F Remembered Length

Draw a non-intersecting loop through the centers of all cells and define its direction of travel. Each time the loop exits a region containing a number, its visit to the next region must consist of exactly that number of cells.

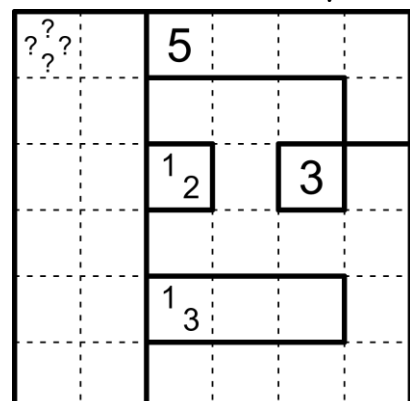
12+10+27+16+12+18 points



## 4 Rail Pool

Draw a non-intersecting loop through the centers of all cells. Clues represent all the different lengths of the straight line segments that are at least partially contained within the region. Each number within a region must be represented by at least one line segment.

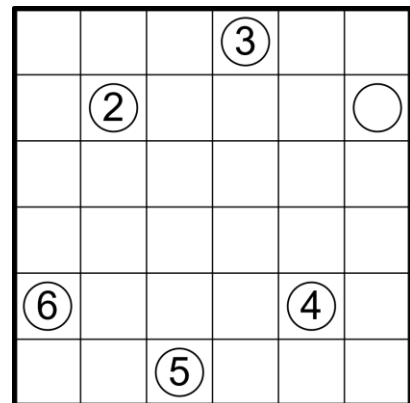
95 points



## 5A-5F Kurodoko

Shade some cells so that no two shaded cells are orthogonally adjacent and the remaining unshaded cells form one orthogonally connected area. Clues cannot be shaded, and represent the total number of unshaded cells that can be seen in a straight line vertically or horizontally, including itself.

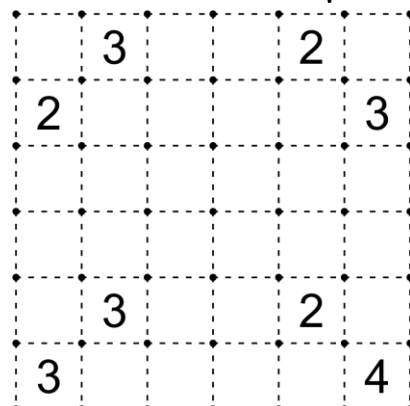
10+7+12+13+12+7 points



## 6 Cave

Shade some cells so that the shaded cells are all connected orthogonally by other shaded cells to the edge of the grid, and the remaining unshaded cells form one orthogonally connected area. Clues cannot be shaded, and represent the total number of unshaded cells that can be seen in a straight line vertically or horizontally, including itself.

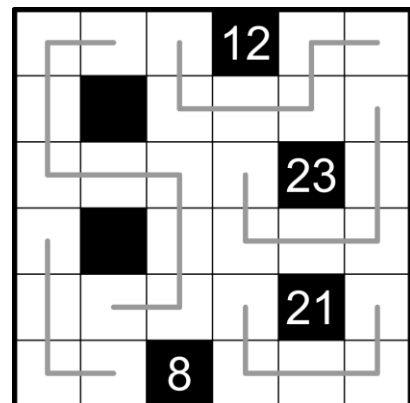
65 points



## 7A-7F Number Rope

Place a number from 1 to 9 into each white cell. No two orthogonally adjacent cells may contain the same number. Numbers along a rope must form a sequence of consecutive numbers, in order. A clue in a black cell indicates the sum of the numbers in the orthogonally adjacent white cells.

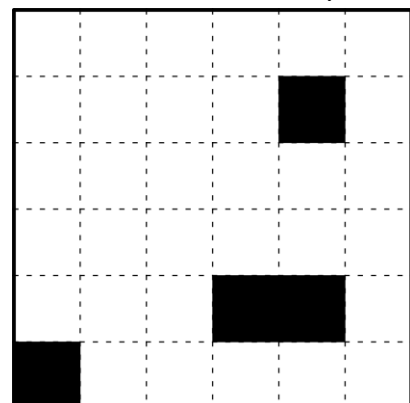
18+22+9+23+29+12 points



## 8 RingRing

Draw rectangular loops through the centers of empty cells so that every empty cell gets used. The sides of different rectangles may intersect each other, but not turn at their intersection or otherwise overlap.

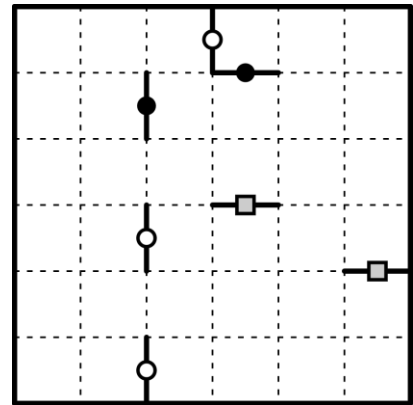
60 points



## 9A-9F Voxas

Divide the grid into 1x2 and 1x3 regions. Borders must separate two different regions. Borders with white dots separate regions with the same size and orientation. Borders with black dots separate regions with neither the same size nor the same orientation. Borders with grey dots separate regions with either the same size or the same orientation, but not both.

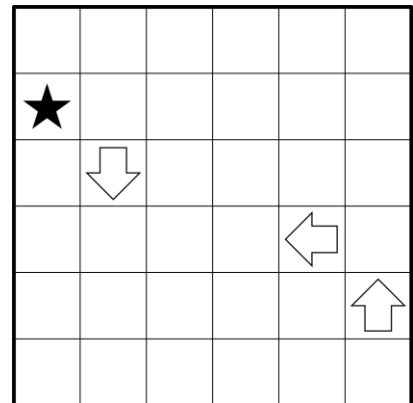
12+12+7+10+13+9 points



## 10 Guide Arrow

Shade some empty cells so that no two shaded cells are orthogonally adjacent and the remaining unshaded cells form one orthogonally connected area. No complete loop of cells may be unshaded (including 2x2s). An arrow indicates the only direction in which one could begin a path to the star without going through a shaded cell or backtracking.

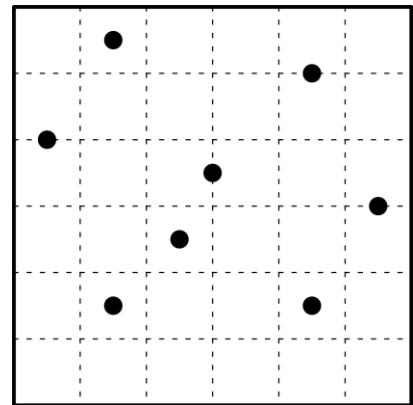
70 points



## 11A-11F Midloop

Draw a non-intersecting loop through the centers of some cells that passes through every circle. Each circle marks the center of the straight line segment it lies on.

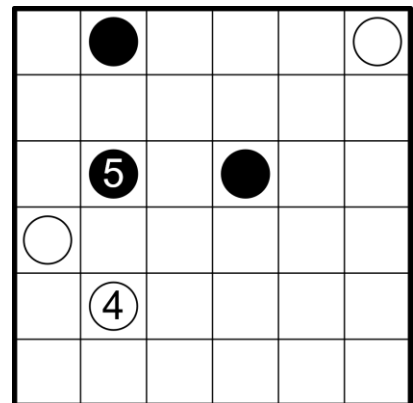
9+5+9+4+4+5 points



## 12 Balance Loop

Draw a non-intersecting loop through the centers of some cells that passes through every circle. The straight line segments coming out of a white circle must have equal length, while the straight line segments coming out of a black circle must have different lengths. A clue in a circle represents the sum of the lengths of these two line segments.

95 points





Note: Round 4 IB will be shared separately.

# Solutions

## Round 1

Snake

4  
5

Cave [Product]

Skyscrapers

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

Rule Pool

Mochinyoro

LUZ Loop

Sukoro

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

Pentopia

Curve Data

Word Labyrinth

	T	R	I	
			C	D
	I		E	V
N	R	I	T	A
A	D	E	J	

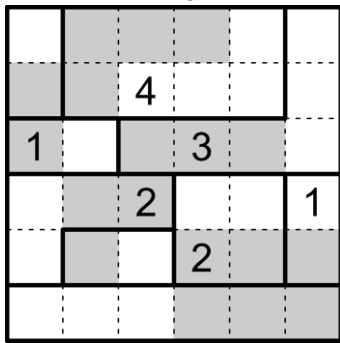
Sashigane

Reflect Link

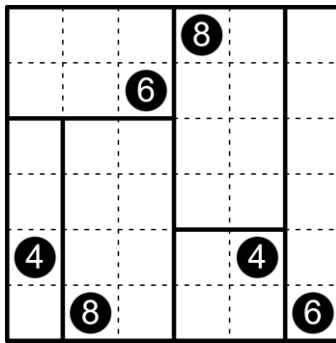


# Round 3

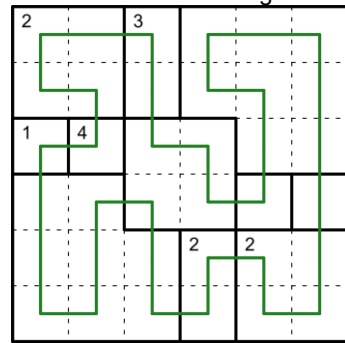
Double Choco



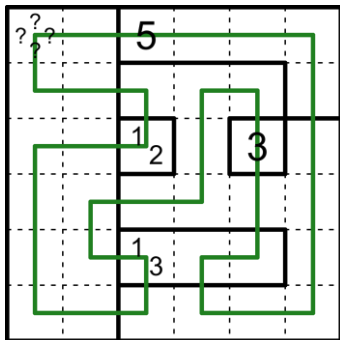
Shikaku



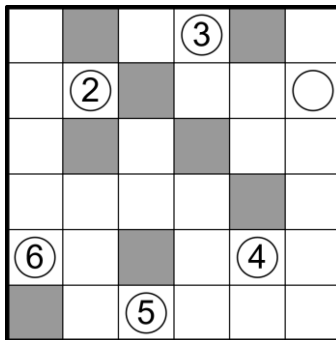
Remembered Length



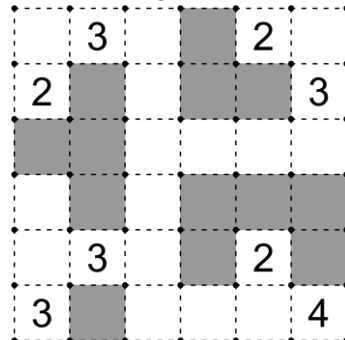
Rail Pool



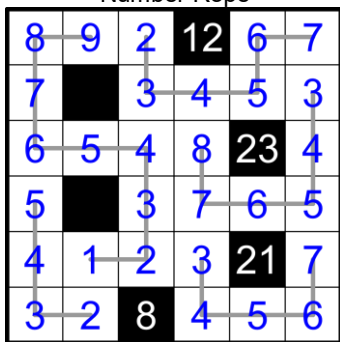
Kurodoko



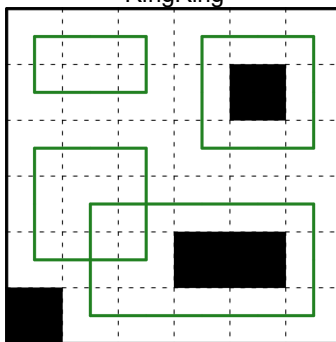
Cave



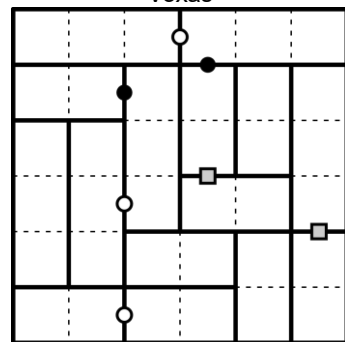
Number Rope



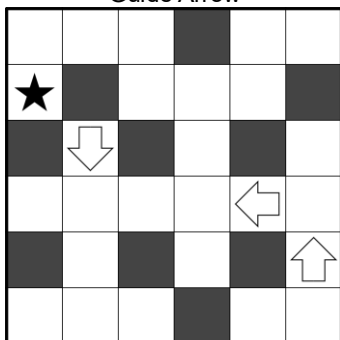
RingRing



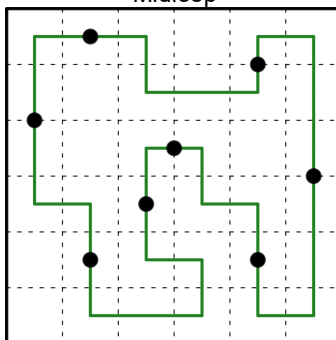
Voxas



Guide Arrow



Midloop



Balance Loop

