Instructions booklet
for
Puzzle Ramayan 2021 Finals
&
Indian Puzzle Championship 2021

19th December 2021
(This event will be held online)

Online Finals: **Starts at 9:00 AM** Total Solving Time: **215 minutes** Total Points: **1950 + Bonus + Base points**	**Round 1 – Familiar Foes**	**60 min: 550 points**
	Round 2 – Deja Vu	**75 min: 650 points**
	Round 3 – Think Different	**80 min: 750 points**

About this document:
These are the instructions for the 2021 Puzzle Ramayan + Indian Puzzle Championship Finals, organised by Logic Masters India. Any questions related to these instructions should be raised and discussed at

https://logicmastersindia.com/forum/forums/thread-view.asp?tid=2949

Schedule on 19th December 2021

09:00 to 10:00 Round 1 – Familiar Foes
10:25 to 11:40 Round 2 – Deja Vu
12:05 to 13:25 Round 3 – Think Different
14:30 Announcement of Results

"Official" Round timings

Indian participants must start the test during the below time window to be considered for official rankings.

Round 1 – Familiar Foes – Must start between 09:00 to 09:15
Round 2 – Deja Vu – Must start between 10:25 to 10:40
Round 3 – Think Different – Must start between 12:05 to 12:20

If a participant starts a round outside the above window, their results for those rounds shall be considered "unofficial".

Authors & Test-Solvers:
LMI thanks the authors and test solvers for their contributions to IPC 2021:

- Amit Sowani (India) – Test-Solving
- Bram De Laat (The Netherlands) – Author + Test-Solving
- Chiel Beenhakker (Netherlands) – Author
- David Altizio (USA) - Author
- Eric Fox (USA) – Author
- Murat Can Tonta (Turkey) - Author + Test-solving
- Priyam Bhushan (India) – Author + Test-solving
- Tawan Sunathvanichkul (Thailand) – Author
- Walker Anderson (USA) – Author + Test-Solving
- Yanzhe Qiu (China) – Test-Solving

General Structure of the finals

There will be 3 rounds in the finals, of varying lengths and of varying points. Scores from each round, along with bonus if any, will be added up to the base points to determine the final score of the player. This score will be used for ranking in Indian Puzzle Championship 2021.

There will be a separate ranking after these rounds, based on PR eligibility, to determine the Puzzle Ramayan winner.

How to participate?

- Download the password protected Puzzle booklet for each round. The Puzzle booklets contain the actual puzzles to be solved. It is password protected.
- You must participate in the contest during the "official" round timings on 19th December to be included in the official rankings.
- For each round, Click on "Start" button. At this time, password for pdf will be shown and timer will start.
- You can print the pdf and solve on paper.
- **Each Puzzle will have an answer key and will be given after the rules. You need to enter the answer key details and click on submit button.**

- This year participants will be able to solve the puzzles online using the Penpa interface. If you plan to solve online do read the FAQ here: https://www.logicmastersindia.com/live/faq-online-solving.asp
- **If participants face any technical difficulty during submissions, they can email screenshots of answer keys for solved grids to logicmasteradmin@gmail.com before their timer ends.**

Scoring

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

Instant Grading

This test uses instant grading in all three rounds, 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

It is possible that some players may finish all puzzles in a round before the time allocated. A bonus of **10 points** for each full minute remaining will be awarded to any competitor who correctly solves every puzzle in a round.

Tie Breaker

Ties will be broken using following rules:

i) Maximum points in Round 3 (including bonus points in Round 3)
ii) Maximum points in Round 2 (including bonus points in Round 2)
iii) Maximum points in Round 1 (including bonus points in Round 1)
iv) Higher base points

PR Rules:

The top "inexperienced" players will be ranked according to their scores, to determine the Puzzle Ramayan Winner. Ties will be broken using the above tie breaker rules.

Practice Materials

The online rounds of Puzzle Ramayan will serve as great practice materials for the finals. You can access the puzzles at http://logicmastersindia.com/lmitests/downloads.asp?testFilter=PR

Prohibited Materials

Any kind of external help from other persons, mobile, solvers, computers, etc is not allowed. If the organisers feel any kind of unfair means has been used, they can review/discard individual submissions.

PR Eligibility and Base Points

This year the competition is open to all. Below is the tentative list of players who took part in the online episodes of Puzzle Ramayan 2021 and their base points, and eligibility for PR.

Name	ID	Base Points	PR Eligibility
Prasanna Seshadri	prasanna16391	152	NO
Rohan Rao	vopani	152	NO
Swaroop Guggilam	swaroop2011	134	NO
Rajesh Kumar	rajeshk	110	NO
Ashish Kumar	ashaash11ash	100	NO
Jaipal Reddy	mjaipal	89	NO
Rakesh Rai	rakesh_rai	87	NO
Harmeet Singh	harmeet	79	NO
Kishore Kumar	kishy72	75	NO
Nityant Agarwal	Nityant	74	YES
Harsh Poddar	hpoddar08	67	YES
Lenson Andrade	lenson	58	YES
Deepanshu	deepanshu	57	YES
Nikhil Khetan	kheti	56	YES
Saloni Singla	Sally	52	YES
Gaurav Kumar jain	gaurav.kjain	50	YES
Swagatam Islam Sarkar	Swagatam	48	YES
Mihir Neve	Mihir Neve	46	YES
Madhav	Madmahogany	45	YES
Sravani Sripada	scampy	39	YES
Jayant Ameta	witty	36	YES
Chandrachud Nanduri	professorX	33	YES
Pranav Kamesh	pranavmanu	31	NO
Sneha Sanjeevini	snehasanjeevini	27	YES
Anubhav Balodhi	ABcDexter	24	YES
Vivek Jain	vjain9	24	YES
Dhruvrajsinh Puwar	dhruvarajsinhpuwar06	18	YES
Daniel Victor	DanAvi	14	YES
Sonu Sharma	SN Sam	11	YES
Shambo Debnath	shambo	11	YES
Anil Khosla	khuski	10	YES
Siddhant Guru	gravemadness	10	YES
Arunesh Varade	KyaFarkPadtaHai	9	YES
Hemanth Dara	hemanthd	8	YES
Zalak Ghetia	zalak	7	YES
Kanishka Goyal	Kanishka goyal	6	YES
Prajwal Dhapte	prajwaldhapte77	5	YES
Swati Singh	avni	5	YES
Sai Karthik Burra	carburra	5	YES
Anukul	ggmu80	5	YES
Prateek Gupta	prateek706	5	YES
Sadhika	Sadhika	4	YES
Sandeep Kumar	drsandeepkumarp	4	YES
Vishnu Nandakumaran	vishnu97	4	YES
Harsha	harsha143	3	YES
Shreyasi Athalye	shreyasiathalye	2	YES
Bathri Narayanan	GBathri	1	YES
Sonny Laskar	sonnylaskar	1	YES

List of IPC Winners (2015-2020)

Year	1st	2nd	3rd
2020	Prasanna Seshadri	Swaroop Guggilam	Rohan Rao
2019	Prasanna Seshadri	Amit Sowani	Rohan Rao
2018	Prasanna Seshadri	Rohan Rao	Amit Sowani
2017	Rohan Rao	Ashish Kumar	Rajesh Kumar
2016	Amit Sowani	Rohan Rao	Rakesh Rai
2015	Rohan Rao	Amit Sowani	Swaroop Guggilam

List of PR Winners (2016-2020)

Year	1st	2nd	3rd
2020	Jayant Ameta	Gaurav Kumar Jain	Nityant Agarwal
2019	Pranav Kamesh	Priyam Bhushan	Gaurav Kumar Jain
2018	Pranav Kamesh	Vishal Jain	Kartik Reddy
2017	Ashish Kumar	Varun R	Lenson Andrade
2016	Ashish Kumar	Kishore Kumar	Varun R

puzzle ramayan

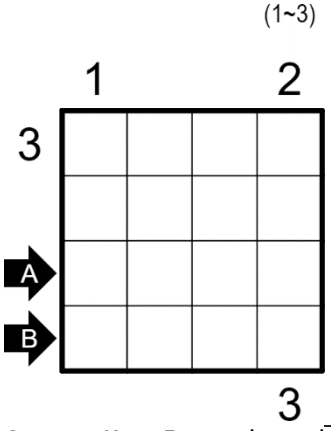
60 min | 550 points | Round 1 Familiar Foes

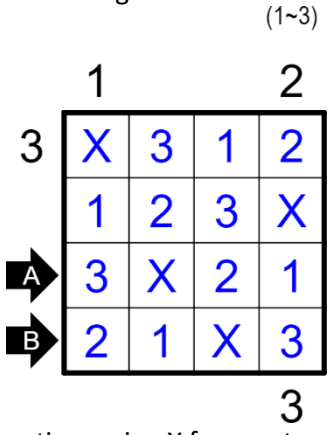
This round contains twelve puzzle types from some of the categories that appeared in online rounds of Puzzle Ramayan 2021.

Puzzle Type	Points
Easy as 123	15 points
Easy as Snake	40 points
Akari	15 points
Kakuro	55 points
Fillomino	35 points
Nanro Signpost	65 points
Kurodoko	65 points
Mastermind	40 points
Snake	20 points
Regional Yajilin	40 points
Letter Weights	60 points
Canal View	100 points

1. Easy as 123 (15 points)

Place a digit from the given range into some cells in the grid so that no digit repeats in any row or column, and all digits within the range appear exactly once in each row and column. Some cells remain blank. The clues outside the grid indicate the first digit from that direction along the row or column.

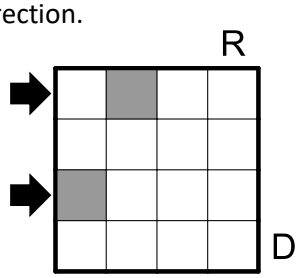


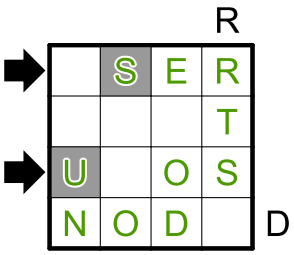


Answer Key: For each marked row/column, enter the digits in that direction, using X for empty cells - from left to right / top to bottom. **Example:** 3X21, 21X3

2. Easy as Snake (40 points)

Locate a word snake (a one cell-wide single continuous path) whose head and tail are indicated by grey cells. The snake does not touch itself, even diagonally. The snake should contain the words in the phrase given below the grid in the same sequence. The snake can start at any of the grey cells. Letters outside the grid indicate the first seen letter in that row or column when looking from that direction.





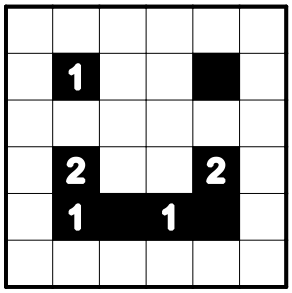
U N O D O S
T R E S

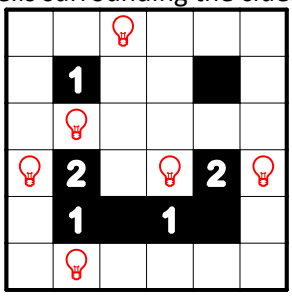
U N O D O S
T R E S

Answer Key: For each marked row/column, enter the alphabets in that direction, using X for empty cells - from left to right / top to bottom. **Example:** UXOS, XSER

3. Akari (15 points)

Place lights in some cells so that every cell is illuminated. Lights illuminate the cell they're in as well as all cells seen in a straight line horizontally or vertically, not obstructed by a black cell. Lights may not illuminate each other. Clues represent the number of lights in the four cells surrounding the clue.

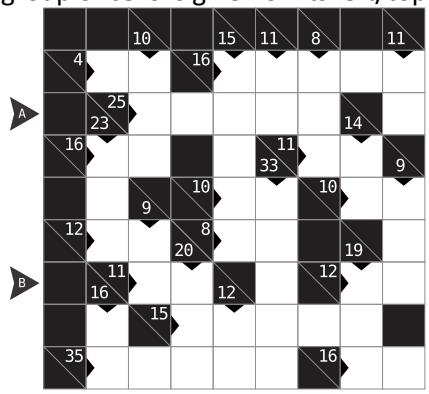


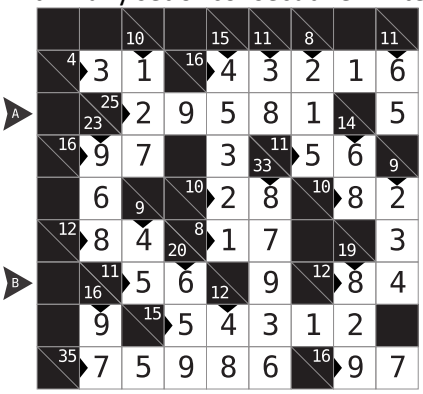


Answer Key: Enter the number of bulbs in each row from top to bottom. **Example:** 101301

4. Kakuro (55 points)

Fill in the white cells in the grid with digits from 1 to 9. The sum of digits in each horizontal / vertical group of cells is given on its left/top. Digits do not repeat within any set of consecutive white cells.

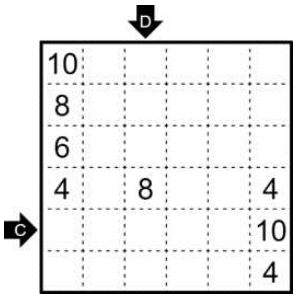


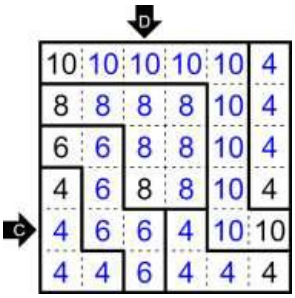


Answer Key: For each marked row (or column), enter the contents of the row (or column) from left to right (or top to bottom). **Example:** 295815, 56984

5. Fillomino (35 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.

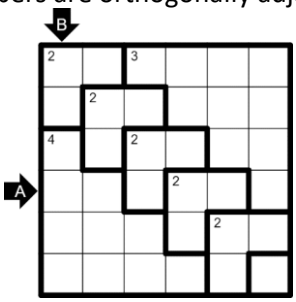


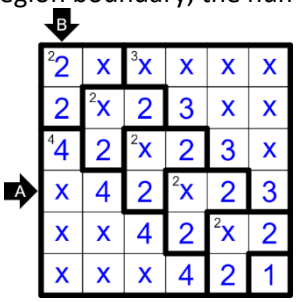


Answer Key: For each marked row/column, enter the digits corresponding to the size of the region in that direction - from left to right / top to bottom. Use unit's digit for double digit values**. Example**: 466400, 088866

6. Nanro Signpost (65 points)

Place numbers in some cells to form a single connected group of numbers. All regions must contain at least one number. Each number in a region must be equal to the total number of cells containing numbers in that region. No 2×2 group of cells may fully contain numbers. A clue in the top left of a region indicates how many cells contain numbers in that region (but not necessarily which cells). When two numbers are orthogonally adjacent across a region boundary, the numbers must be different.

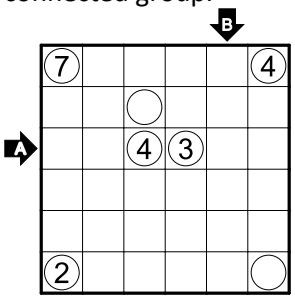


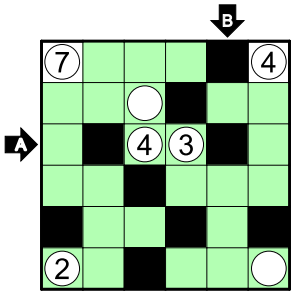


Answer Key: For each marked row/column, enter the digits in that direction, using X for empty cells - from left to right / top to bottom. **Example:** X42X23, 224XXX

7. Kurodoko (65 points)

Shade some unclued cells so that each number indicates the total count of unshaded cells connected vertically and horizontally to that number including the numbered cell itself. Shaded cells cannot share an edge, and all unshaded cells (including clue cells) must belong to a single orthogonally connected group.

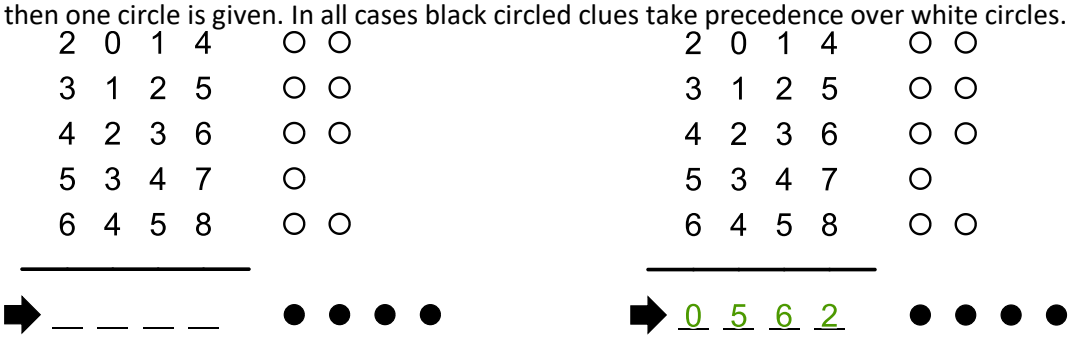




Answer Key: For each marked row/column, enter the lengths of consecutive shaded and unshaded blocks in the direction of the arrow. Use unit's digit for double digit values. **Example:** 11211, 1113

8. Mastermind (40 points)

Figure out the secret number. Some guesses have been given. Next to each guess it's indicated how many digits are correct in the given guess. A black circle indicates a correct digit in the correct position. A white circle indicates a correct digit in the wrong position. Digits may repeat in the answer key and answer guesses. If a digit appears twice or more in a guess but only once in the answer key, then only one circle is given. If a digit appears once in the answer guess but more than once in the answer key, then one circle is given. In all cases black circled clues take precedence over white circles.



Answer Key: Enter the secret number **Example:** 0562

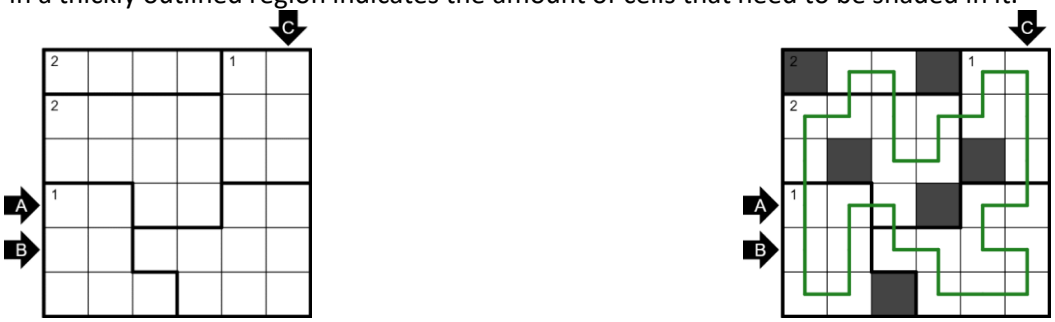
9. Snake (20 points)

Shade some cells to form a non-intersecting path which does not touch itself, not even diagonally. Black circles must lie on one end of the path. White circles 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.

Answer Key: For each marked row/column, enter the lengths of consecutive snake and non-snake blocks in the direction of the arrow. Use unit's digit for double digit values. **Example:** 3111, 141

10. Regional Yajilin (40 points)

Shade some cells, so that a single closed loop can be drawn through all remaining cells. The loop runs horizontally and vertically through the centers of the cells. No two shaded cells can share a border. A number in a thickly outlined region indicates the amount of cells that need to be shaded in it.



Answer Key: For each marked row/column, enter the lengths of loop segments in that direction - from left to right / top to bottom. Enter 0 if there are no segments along the row/column. **Example:** 11,11,31

11. Letter Weights (60 points)

Write a number under each letter so that the numbers corresponding to the letters in each given word have the given sum. Different letters must correspond to different numbers. The range of allowed numbers is given below the puzzle.

	A	B	C	D	E
Numbers:	1	2	3	4	5

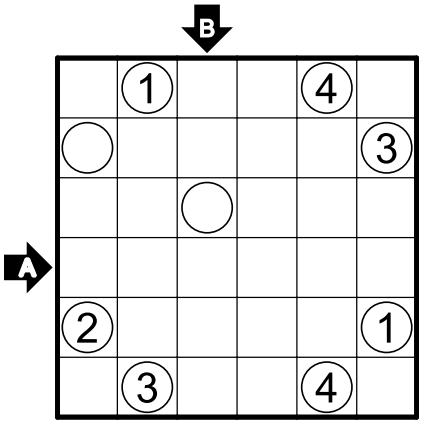
A	B	C	D	E
2	5	4	3	1

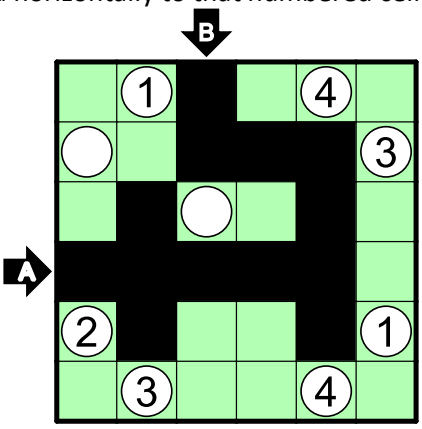
CAB = 11
BEE = 7
ABE = 8

Answer Key: Enter the numbers for the letters from left to right. **Example:** 25431

12. Canal View (100 points)

Shade some empty cells black to create a single connected group. Cells with numbers cannot be shaded, and the shaded cells cannot form a 2×2 square anywhere in the grid. Each numbered cell indicates the total count of shaded cells connected vertically and horizontally to that numbered cell.





Answer Key: For each marked row/column, enter the lengths of consecutive shaded and unshaded blocks in the direction of the arrow. Use unit's digit for double digit values. **Example:** 51, 2112

puzzle ramayan

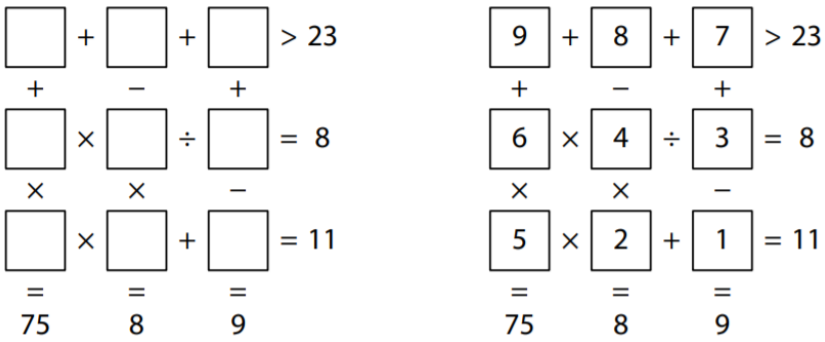
75 min | 650 points | Round 2 Deja Vu

This round contains sixteen puzzle types from some of the categories that appeared in online rounds of Puzzle Ramayan 2021. These puzzle types couldn't make it to the online PR rounds.

Puzzle Type	Points
Arithmetic Square	15 points
Climber	15 points
Gaps	20 points
Kropki	35 points
Rassi Silai	35 points
Pencils	40 points
Yajisan Kazusan	35 points
Midloop	25 points
Summon	55 points
Araf	45 points
Pentominous	25 points
Pentopia	60 points
Hiroimono	45 points
Heterocut	65 points
Maxi Loop	55 points
Persistence Of Memory	80 points

1. <u>Arithmetic Square (15 points)</u>

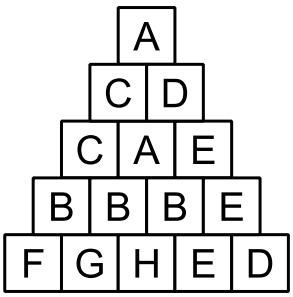
Place each digit from 1 through 9 into the white boxes (a different digit per box) so that the indicated equations or relations are correct when evaluating from left to right or top to bottom (ignore the usual order of operations).

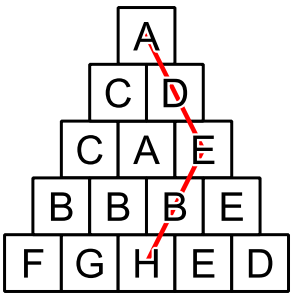


Answer Key: Enter the numbers in the boxes from top to bottom, and left to right for each row.
Example: 987643521

2. Climber (15 points)

A climber climbs up a path of adjacent cells of the pyramid. The letters in that path's cells are different. (The climber does not move sideways.) Determine the path of the climber.

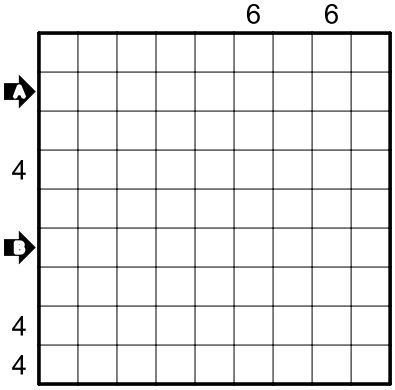


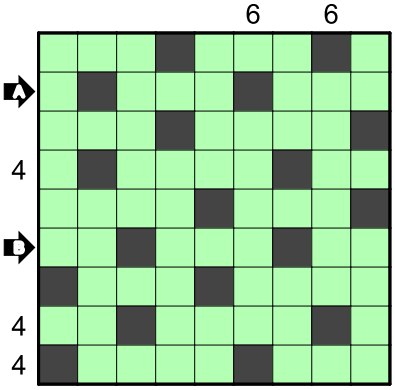


Answer Key: Enter the letters encountered by the climber along his path from top to bottom.
Example: ADEBH

3. Gaps (20 points)

Blacken some cells of a grid such that each row and each column contains two black cells. No black cells can touch each other, not even diagonally. Numbers outside the grid show the number of white cells between black cells in corresponding row or column.

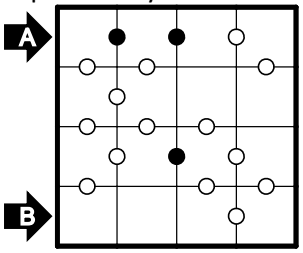


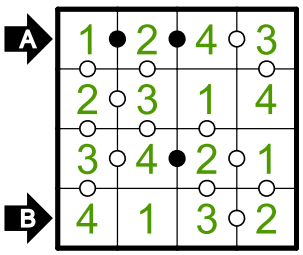


Answer Key: Enter the length of continuous areas of shaded and unshaded cells in the marked rows/columns. **Example:** 11313, 21312

4. Kropki (35 points)

Place numbers of the given range in the grid such that each number appears in every row and column exactly once. If the absolute difference between two digits in neighbouring cells equals 1, then they're separated by a white dot. If the digit in a cell is half of the digit in a neighbouring cell, then they're separated by a black dot. The dot between '1' and '2' can have any of these dots.

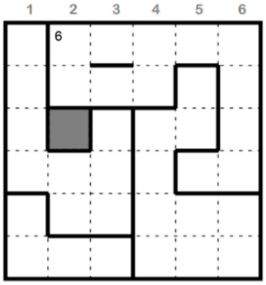


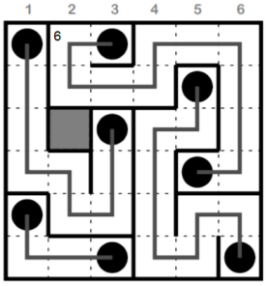


Answer Key: Enter the digits in the marked rows/columns - from left to right / top to bottom.
Example: 1243, 4132

5. Rassi Silai (35 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. Numbers inside regions indicate the number of turns in that region.

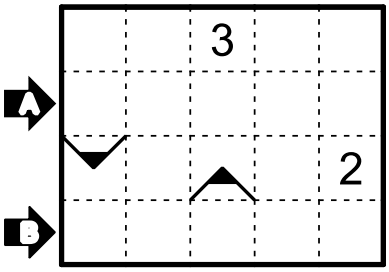


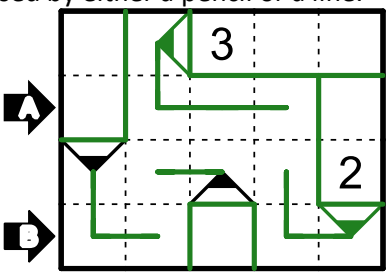


Answer Key: For each row, enter the column number of the leftmost end-point. Enter 0 if there are no end-points in a row. **Example:** 153513

6. Pencils (40 points)

Draw pencils in the grid, straight lines of cells with a triangular tip at one end. If a pencil contains numbers, it must have the same length as the number(s). Draw lines from the tips of each pencil through the centers of cells, vertically, horizontally, and optionally turning. The line must go through as many cells as the size of the pencil, and pencil lines cannot branch or cross. Cell with a pencil tip does not count as one cell when drawing lines. All cells must be used by either a pencil or a line.

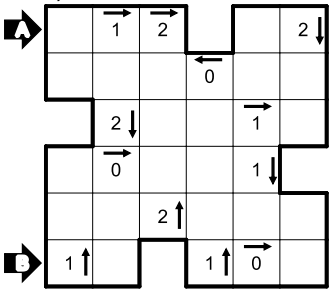


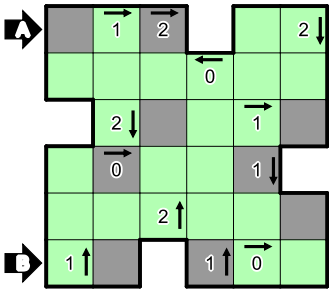


Answer Key: For each marked row/column, enter the digits corresponding to the size of the pencil /line - from left to right / top to bottom. **Example:** 23332, 22122

7. Yajisan Kazusan (35 points)

Shade some cells black so that all unshaded number and arrow clues indicate the exact count of shaded cells in the given direction. Shaded cells cannot share an edge, and all white cells must remain connected as part of a single contiguous group. It is allowed to shade over some of the numbered cells; a shaded over clue may or may not be true.

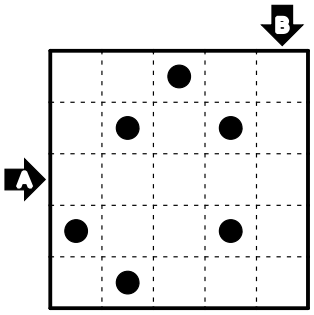


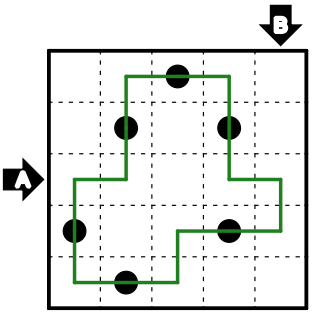


Answer Key: For each marked row/column, enter the lengths of consecutive shaded and unshaded blocks in the direction of the arrow. Use unit's digit for double digit values. **Example:** 1112, 1112

8. Midloop (25 points)

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

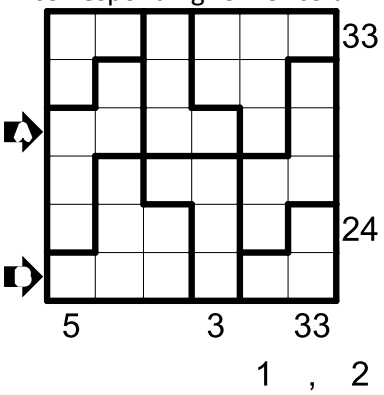


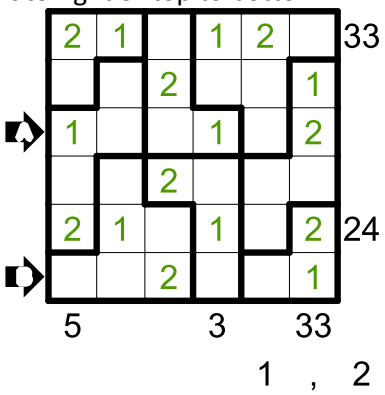


Answer Key: For each marked row/column, enter the lengths of loop segments in that direction from left to right / top to bottom. Enter 0 if there are no segments along the row/column. **Example:** 11, 1

9. Summon (55 points)

Place single digits into some cells, such that cells with the same digit don't touch, not even diagonally. Each area must contain exactly the given range of digits. Clues outside grid indicate sum of all numbers in corresponding row or column. Numbers must be read from left to right or top to bottom.

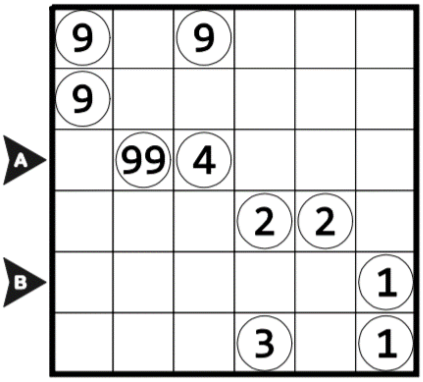


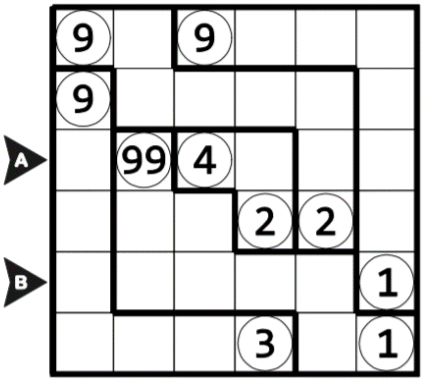


Answer Key: For each marked row/column, enter the digits encountered using X for blank cells
Example: 1XX1X2, XX2XX1

10. Araf (45 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.

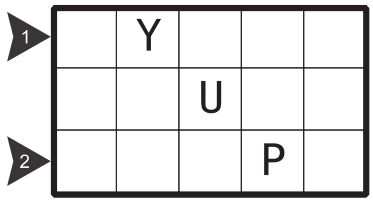


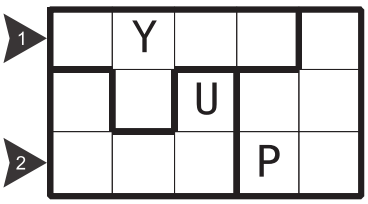


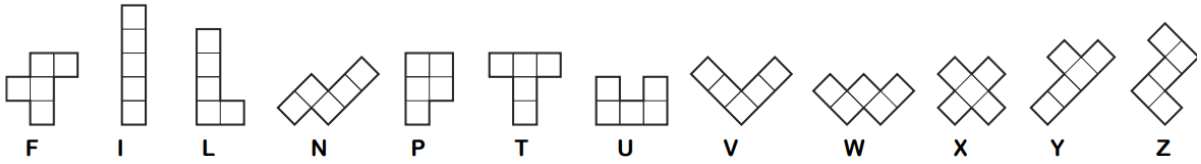
Answer Key: For the marked rows/columns, enter the number of consecutive cells in each region from left to right/top to bottom Enter only the unit's digit for double digit numbers. **Example:** 11211, 141

11. Pentominous (25 points)

Divide the grid into pentominoes so that no two pentominoes of the same shape (including rotations/reflections) share an edge. A cell with a letter in it must be part of the pentomino shape associated with that letter. All shapes may or may not be used. All cells must be part of a pentomino.



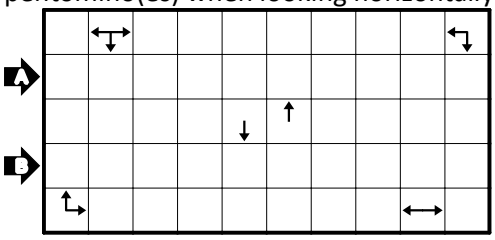


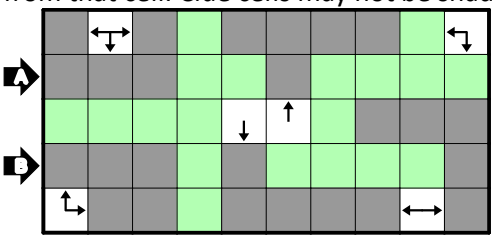


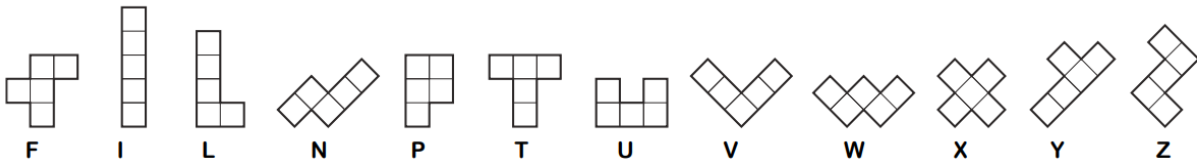
Answer Key: For each marked row or column, enter the letter of the pentomino to which each cell belongs (from left to right or top to bottom). **Example:** YYYYP, UUUPP

12. Pentopia (60 points)

Place some pentominoes in the grid so they don't touch each other, not even diagonally. No pentomino may be placed more than once. Clues in the grid indicate the directions of the closest pentomino(es) when looking horizontally and vertically from that cell. Clue cells may not be shaded.



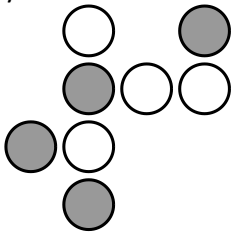


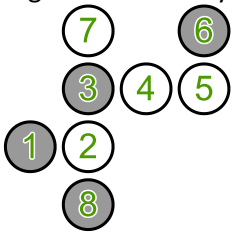


Answer Key: For each marked row/column, enter the alphabets corresponding to the pentomino using X for blank cells. **Example:** UUUXXYXXXX, PPPXLXXXXV

13. Hiroimono (45 points)

Find a path passing all stones going horizontally and vertically. Number all stones in the order you pass them starting with 1. When you reach a stone you pick it up and travel horizontally or vertically to the first stone seen in that direction and again pick it up. You're not allowed to go back in the direction you came from when reaching the stone. Grey shading of stones is only for entering the answer key.

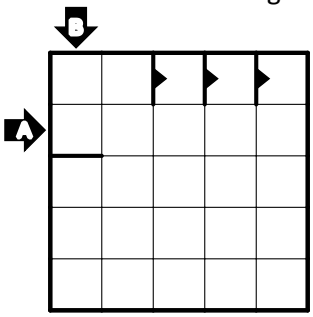


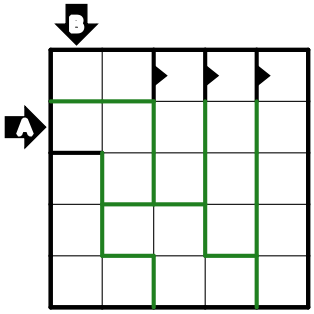


Answer Key: Enter the stone number of the grey stones from left to right top to bottom. Enter the units place double digit numbers. **Example:** 6318

14. Heterocut (65 points)

Divide the grid into a number of regions. All regions have a different shape, that is, no two pieces can be the same after rotation and/or mirroring. All region sizes are in the range 2-5. Arrows always point from a smaller to a larger region.

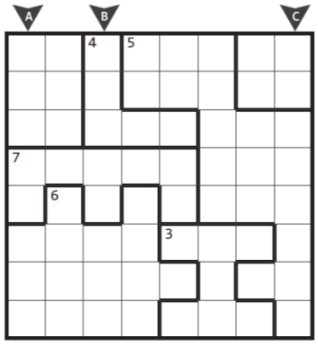


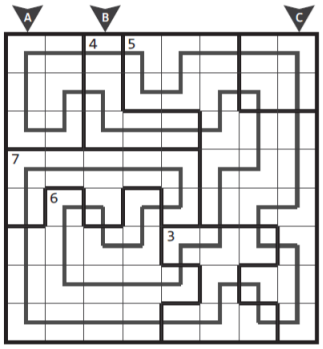


Answer Key: For the marked rows / columns, enter the number of consecutive cells in each region from left to right/top to bottom. **Example:** 2111, 113

15. Maxi Loop (55 points)

Draw a closed loop through all cells by connecting the centers horizontally and vertically. The loop can't cross or touch itself. The numbers in the boldly marked area indicate the highest number of cells that the loop goes through consecutively in that area.

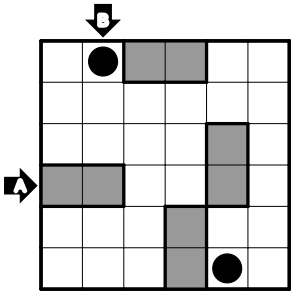


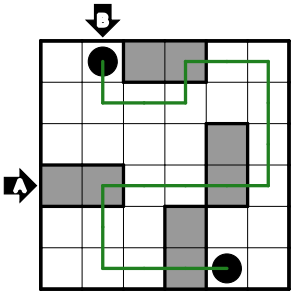


Answer key: Enter the lengths of loop segments in the marked rows/columns, along the marked direction. Enter '0' if there are no line segments along the marked direction. **Example:** 42,11,42

16. Persistence Of Memory (80 points)

Draw a snake (1-cell wide path) in the grid, so that it doesn't touch itself, not even diagonally. The head and tail of the snake are given. The snake must travel through all grey areas and may visit each area more than once. If areas have the same shape and orientation, the snake must pass through these areas the same way each time.





Answer Key: For the marked rows / columns, enter the number of consecutive snake / non-snake cells in each region from left to right/top to bottom. **Example:** 15, 213

puzzle ramayan

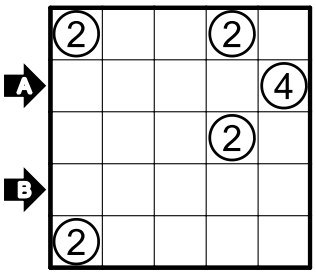
90 min | **750 points** | **Round 3 Think Different**

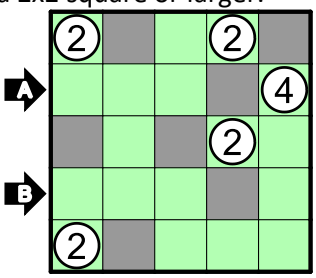
This round contains fourteen assorted puzzle types, some of which have occurred very rarely in competitive contests.

Puzzle Type	Points
Nurimisaki	30 points
Cross The Streams	60 points
Scrin	25 points
Icebarn	60 points
Castle Wall	30 points
Nemo	70 points
Alphabet Blocks	80 points
Juosan	50 points
Hebi Ichigo	35 points
Hotaru Beam	50 points
Amibo	75 points
Shimaguni	55 points
Double Cross	90 points
Word Labyrinth	40 points

1. Nurimisaki (30 points)

Shade some cells so that cells with a circle remain white and must have only one of the orthogonally adjacent cells next to it remaining white and rest black. Numbers in circles indicate how many white cells form a straight line from the cell. Empty circles can have any number of white cells in a line. White cells form a continuous network. Neither black nor white cells can form a 2x2 square or larger.

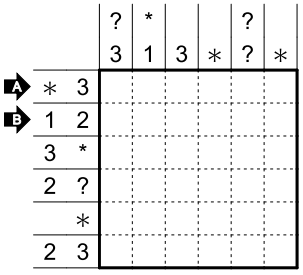


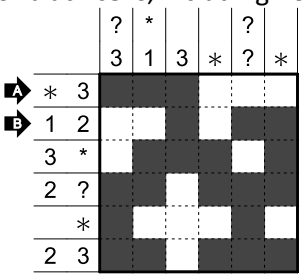


Answer Key: Enter the length of continuous areas of shaded and unshaded cells in the marked rows/columns. **Example:** 311, 311

2. Cross The Streams (60 points)

Shade cells black to create a single connected group of black cells. No 2×2 area within the grid contains all black cells. Numbers to left/top of grid represent groups of consecutive black cells which are in that row/column in order, from left to right or from top to bottom. (?) represents a group of consecutive black cells whose size is unknown; (*) represents any number of groups of black cells, including none.

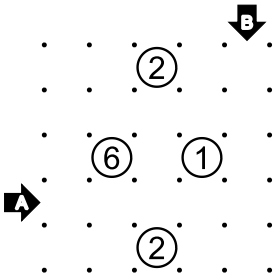


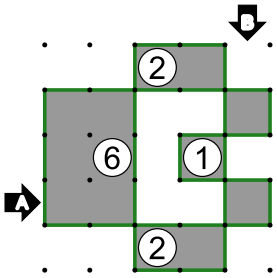


Answer Key: Enter the length of continuous areas of shaded and unshaded cells in the marked rows/columns. **Example:** 33, 2112

3. Scrin (25 points)

Draw some rectangles, such that every clue is inside a rectangle (of the given size if specified). Different rectangles can only touch by corners, and all rectangles must form a single non-branching loop via these corner-connections. Rectangles without clues are possible.

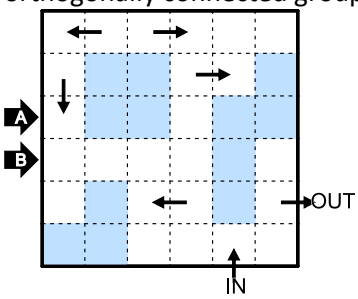


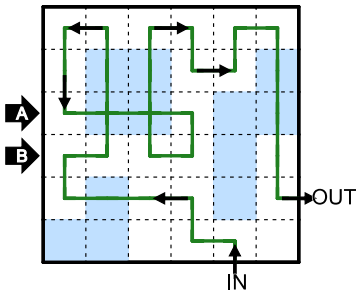


Answer Key: For each marked row/column, enter the digits corresponding to the rectangle sizes, use X for blank cells **Example:** 66XX1, X1X1X

4. Icebarn (60 points)

Draw a path through the centers of some cells, entering the grid at the "IN" marking and exiting at the "OUT" marking. The path must travel through all the arrows in the indicated direction. Two perpendicular line segments may intersect each other on icy cells, but they may not turn at their intersection or otherwise overlap. The path must travel straight through icy cells, and each orthogonally connected group of icy cells must be passed through at least once.

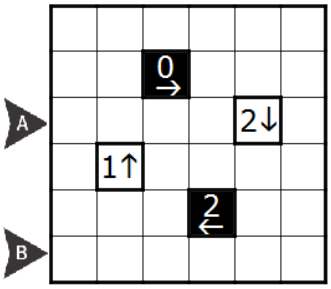


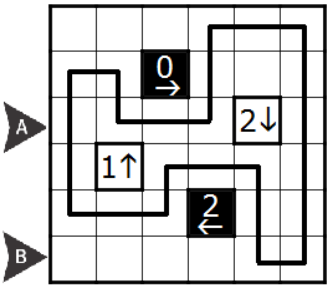


Answer Key: Enter the length of horizontal loop segments in the marked rows (vertical loop segments in the marked columns) ignoring any intersections. Enter 0 if there are no loop segments in a marked row/column. **Example:** 3, 11

5. Castle Wall (30 points)

Draw a single closed loop (without intersections or crossings) passing through some empty cells in the grid. The grid contains some bordered or colored cells that cannot be part of the loop. Black cells must be outside the loop; white cells (with heavy borders) must be inside the loop. Numbers and arrows refer to the total sum of the lengths of loop segments in the given direction.

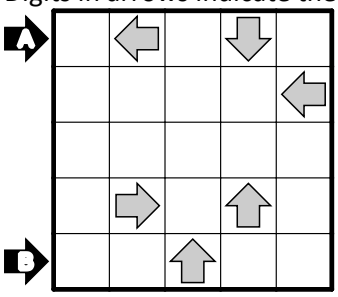


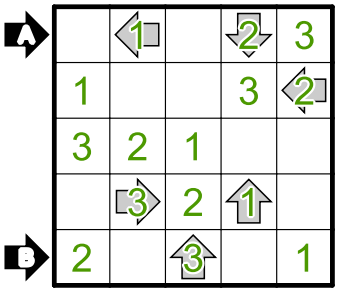


Answer Key: Enter the length of horizontal loop segments in the marked rows (vertical loop segments in the marked columns). Enter 0 if there are no loop segments in a marked row/column. **Example:** 2,1

6. Nemo (70 points)

Place the digits 1-5 (1-3 in example) once in every row and column. Each arrow must contain a digit. Digits in arrows indicate the distance to the first empty cell in the direction of the arrow.





Answer Key: For each marked row/column, enter the digits encountered using X for blank cells **Example:** X1X23, 2X3X1

7. Alphabet Blocks (80 points)

There are four six-sided blocks (three in example) with letters on them. The given words can be created with these four blocks. Figure out the configuration of the four blocks.

A N D	G Y M	
B E D	P E A	
C A R	R I M	
C U T	S U N	
D O G	T I P	
F I B	Y E S	
F O X		

Die1	Die2	Die3

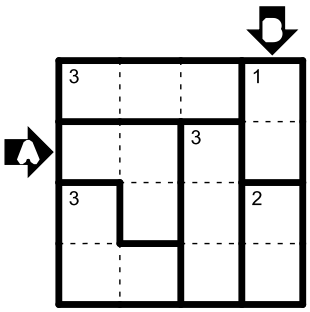
Die1	Die2	Die3
F	C	M
R	G	S
Y	E	T
D	I	O
U	X	B
P	N	A

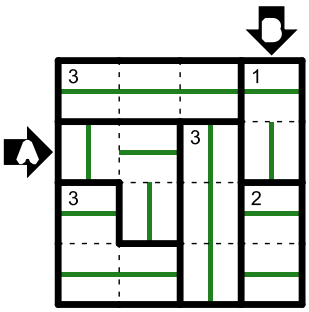
Die1	Die2	Die3
A	C	D
B	E	F
M	G	P
O	I	R
S	N	U
T	X	Y

Answer Key: An additional grid will be provided for sorting the contents of each block. Sort each block in alphabetical order and then sort the blocks based on their first alphabet. Enter the contents of the first three blocks (two blocks in the example) **Example:** ABMOST, CEGINX

8. Juosan (50 points)

Draw a horizontal or vertical line into each cell. A number in a region represents how many horizontal or vertical lines it contains - whichever there isn't less of. There may not exist a run of three consecutive cells containing distinct parallel lines anywhere in the grid.

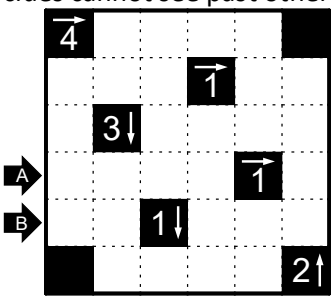


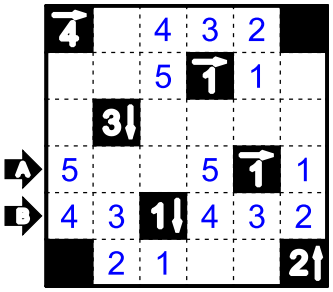


Answer Key: Enter the length of continuous cells with horizontal lines and vertical lines in the marked rows/columns. **Example:** 112, 112

9. Hebi Ichigo (35 points)

Enter numbers into some empty cells such that each orthogonally connected group forms a snake of consecutive numbers from 1 (head) to 5 (tail). A snake can touch itself but orthogonally and can touch other snakes diagonally but may not share an edge with another snake. The 1 in a sequence must not be able to see any snakes in a straight line in the direction it's pointing (away from its adjacent 2) unless a clued cell blocks its view. A clue represents the first number seen in the indicated direction; clues cannot see past other clue cells.

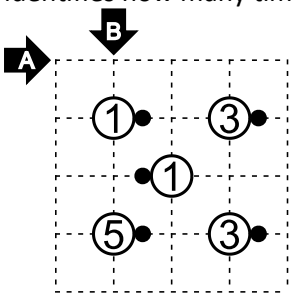


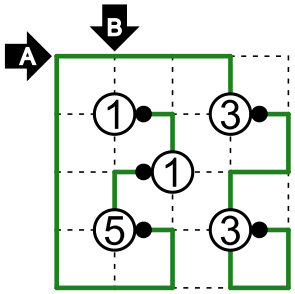


Answer Key: For each marked row/column, enter the digits encountered using X for blank cells. **Example:** 5XX5X1, 43X432

10. Hotaru Beam (50 points)

Draw a line from each white circle's black dot to any white circle, following the grid lines. Lines cannot be drawn from a black dot to another black dot, nor can they be drawn from a white circle not at its black dot to a white circle not at its black dot. No crossing or branching of lines is allowed. The drawn lines will connect all white circles to form a single, contiguous network. The number on the circles identifies how many times the line drawn from its black dot must turn before it meets another circle.

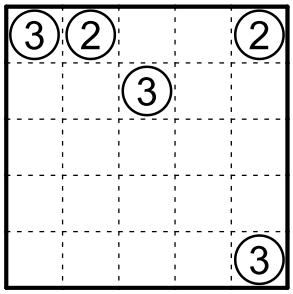


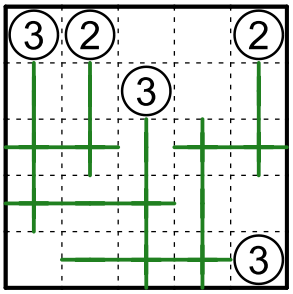


Answer Key: Enter the length of continuous segments with or without lines in the marked rows/ columns. **Example:** 31, 211

11. Amibo (75 points)

Draw bars (comprised of line segments that each connect two opposite sides of a cell) into some unclued cells. Each circled cell must connect to exactly one bar and a number in a circle indicates the length of its connected bar. All bars must be interconnected but no loops may be formed. Each bar must intersect at least one other bar of equal length.

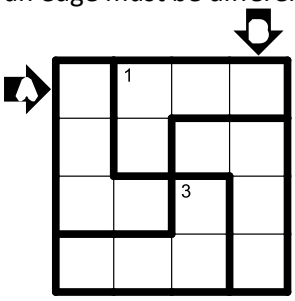


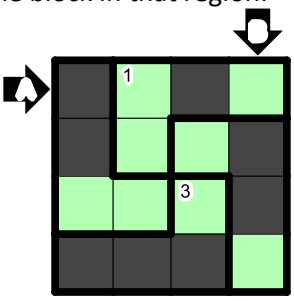


Answer Key: Enter the number of intersections in each row from top to bottom **Example**: 00422

12. Shimaguni (55 points)

Shade one shape in each region. Shapes are not allowed to share an edge. Shapes in regions that share an edge must be different sizes. Numbers in a region indicate the size of the block in that region.

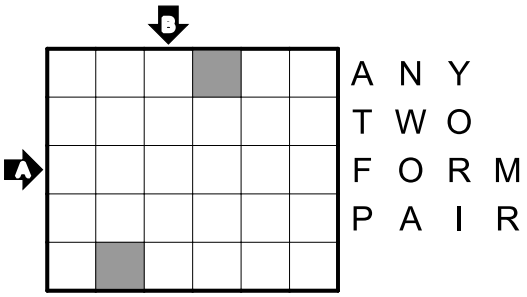


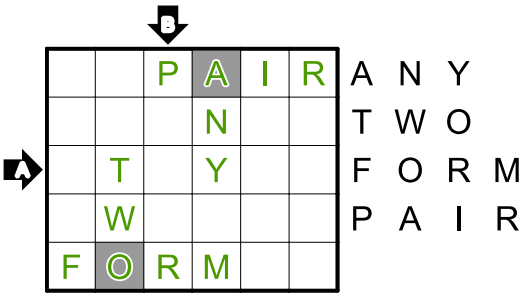


Answer Key: Enter the length of continuous areas of shaded and unshaded cells in the marked rows/columns. **Example:** 1111, 121

13. Double Cross (90 points)

Enter the given words into the diagram, one letter per cell and reading from left to right or top to bottom. Words must form pairs. Each pair is formed of one horizontal and one vertical word that share a cell. All such cells are given. Cells with letters from different pairs of words may not share an edge or corner.

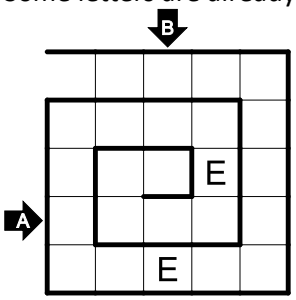




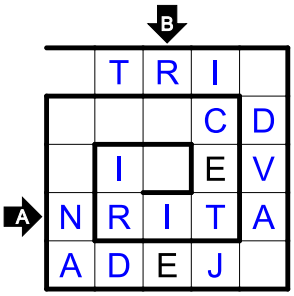
Answer Key: For each marked row/column, enter the alphabets encountered. **Example:** TY, PR

14. Word Labyrinth (40 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 along the spiral. 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.



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



Answer Key: For each marked row/column, enter the alphabets encountered, use X for blank cells. **Example:** NRITA, RXXIE