

Puzzle Innovation Contest

Puzzle Submissions



33rd World Puzzle Championship

INDIA 2026

Puzzle Innovation Contest

Puzzle Innovation Contest was held at Logic Masters India with an aim to increase the pool of innovation for World Sudoku and Puzzle Championship 2026, and also to recognize the best innovations and innovators. Check details at <https://logicmastersindia.com/forum/forums/thread-view.asp?tid=7501>

We received as many as 104 submissions for Puzzle ideas, with many promising ones, out of which some will be used in World Championship - 2026.

Here is the complete list, sorted alphabetically by authors' names.

Anuraag Sahay

Mainak Parbat

AgniBan

Chakravyuh

Paasa

Ram Setu

Box & Blob

Frontage

Connectomino

Splice

AtOdds

Refractive Indices

Ghost Town

Frontier

Venomous Sums

Power Grid

Seam Walk

3 Body Problem

Beam & Bracket

Mortar

Airspace Control

Tetro Duo

Frame Fuse

Turn Signal

Kurukshetra

Number Nest

Fault Lines

Adder

Singularity

Phantom Sums

Kaleidoscope

Rind
Turnpike
Reflexive Realms
Summit
Twin Silhouettes
Gapwise
Area Alibi
Double Take
Astra Prahar
Straight by Side
Portal Pursuit
Dysfunctional Loop
Synapse Pairs
Lichen Spread
Strands
Ghatak Baan
First Tide
Courtyard
Batwaara
Strata
Rapids
Demographics
Seasonal Scrabble
Balance Walk
Slingshot
Schrodinger's Loop
Elixir
Lossy Loop
Twin currents
Physarum
Shoreline
Fill-a-pick
Hammerbeam
Carom rooms
Honey Spinny
Impasse
Duskbreak
Half & Held
Dimer Dance
Balancing Act
Noisy Scrabble
Crystal and Coral
No Kings

	Sequence Scramble Convey Circuit Buzz Line Closest Kin Watershed Interval Arbor Logic Oddments & Runs Unlike Any Propulsion Gappy Scrabble Mirrored Sums Mono-axis Aerial Warfare Proximity
James McGowan	Urumi Spirals
Kota Morinishi	Slitherlink with Cakram
Kyoya Yamada	Piercing Arrows
Manish Hada	Traqs
Markus Roth	Swinging Chakram (hexagonal) Swinging Chakram (triagonal)
Sigmit64	Springs Square Chain Number Stitches X Sandwich Tren (Polyomino) Magnet Chain
Soliloquies	Easy As (Clue Pool)
T.Muthu Ayyappan	SARAS-G Suthasa

Yiyue Shi	Fuga a 3 Soggetti
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Yosuke Imai	Khanda Thrust
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Urumi Spirals

<https://en.wikipedia.org/wiki/Urumi>



An **urumi** is an Indian sword with a flexible, whip-like blade, secretly worn coiled around the waist. Originating in modern-day Kerala in southwestern India, it is thought to have existed from as early as the Sangam period (2000 years ago).

In this puzzle urumi handles are represented by circles, and urumi blades are lines that connect to those circles..

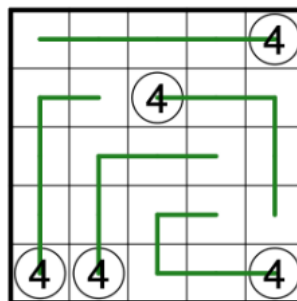
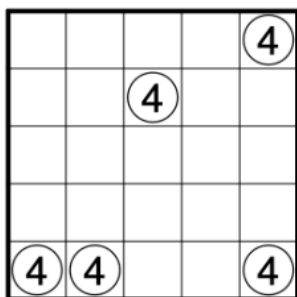
Instructions:

1. Draw an orthogonal line moving out from each circle that can only travel straight or turn right (i.e. no left turns).
2. Line segments between each corner can only reduce in length or stay the same (i.e. they can never be longer than the previous segment).
3. When finished, every cell will be entered by exactly one line (i.e. the lines cannot intersect themselves or each other).
4. A number in a circle gives the total length of the joined line (i.e. the number of other cells the line visits).

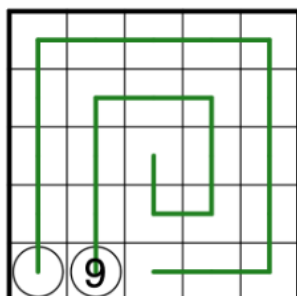
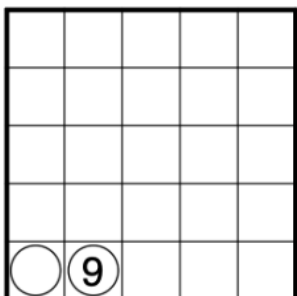
Variant ideas:

- Circles also show the starting direction (like in Hotaru Beam)
- Multiblade urumis also exist, so each circle is the start of 1-4 lines, all of equal length
- Every line must include 2+ corners
- Lines can be either right-only or left-only spirals
- Not all circles are given, instead a line piece might be given instead

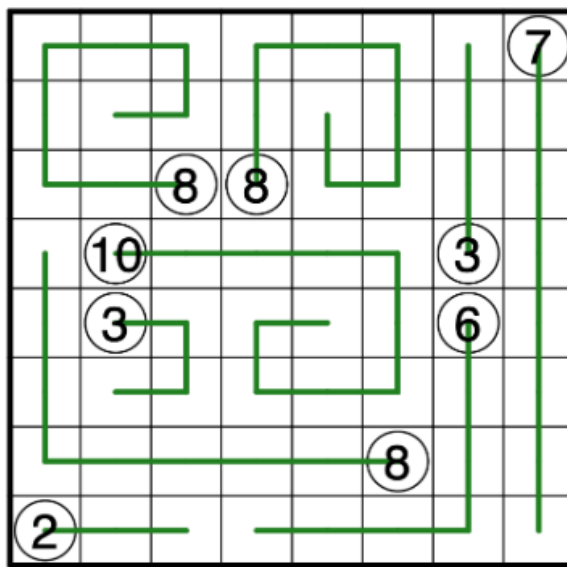
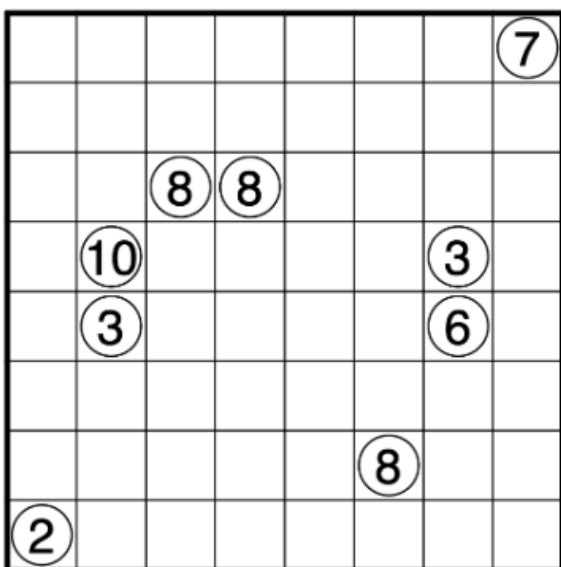
Example 1 <https://tinyurl.com/299rtej8>:



Example 2 <https://tinyurl.com/28c39g3w>:



Example 3 <https://tinyurl.com/26gx487a>:



Puzzle: Slitherlink with Cakram

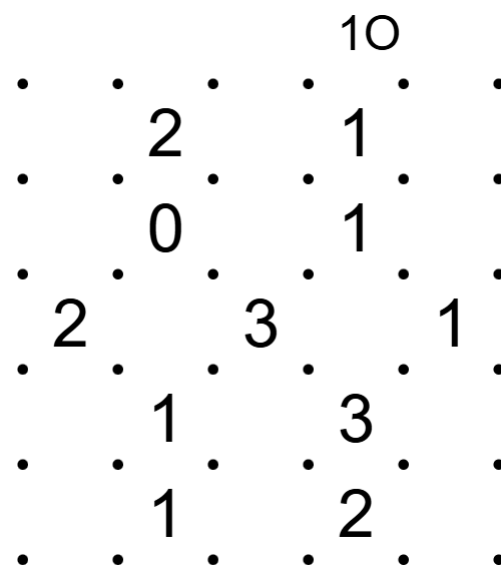
Rule:

Apply Slitherlink rules.

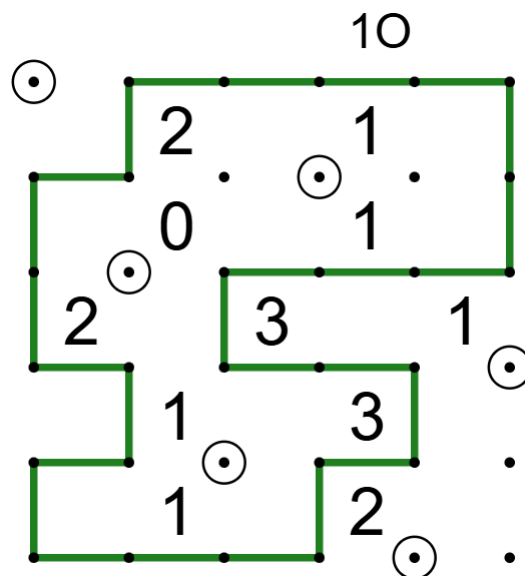
Place the specified number of circles (Cakram) at each grid point in each row and column.

Loops do not pass through these circles.

Example:



Solution:



Piercing Arrows

Author: Kyoya Yamada

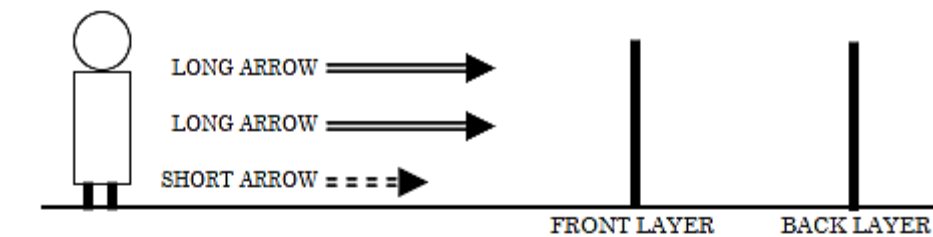
Shoot all of the given arrows at the target so that the sum of the hit values equals the specified number.

The target consists of two overlapping layers: the FRONT LAYER and the BACK LAYER.

The target is divided into several areas, and no two arrows may hit the same area.

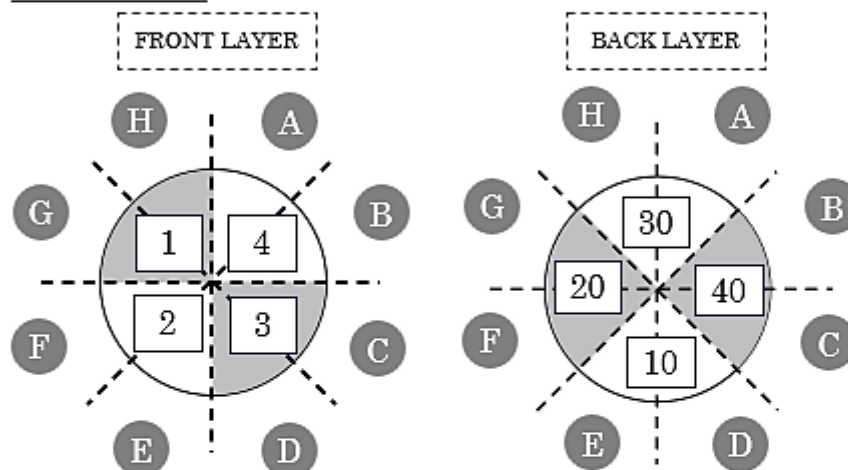
There are two types of arrows:

- LONG ARROW: passes through the FRONT LAYER and also hits the corresponding area on the BACK LAYER.
- SHORT ARROW: hits an area on the FRONT LAYER, but does not reach the BACK LAYER.

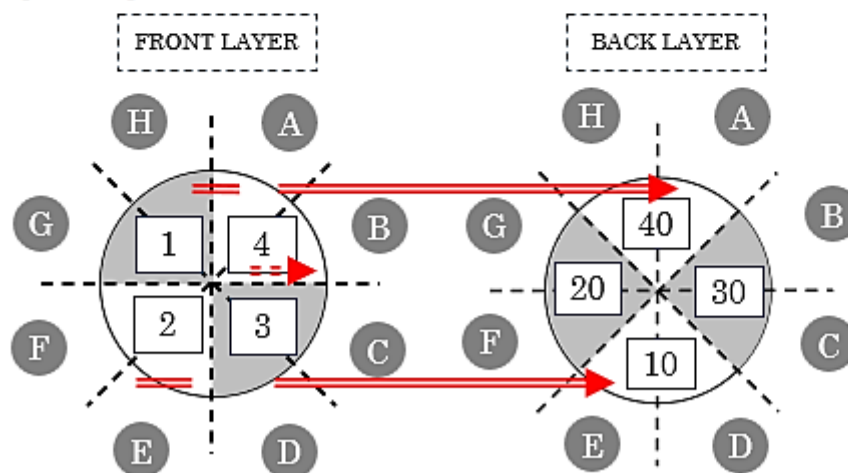


SAMPLE PUZZLE

[Question]

TARGET : 60

[Answer]



LONG ARROW	LONG ARROW	SHORT ARROW
A	E	B

$$(4+40)+(2+10)+4=60$$

TRAQS – Logic Puzzle System

What is TRAQS?

TRAQS is a grid-based logic puzzle where players connect Point A to Point B while following specific placement constraints. It combines the simplicity of a maze with the depth of a strategy puzzle.

Gameplay

- Objective: Connect Point A to Point B
 - Core Rule:
 - Each row and column has constraints on how many pieces can be placed
 - Players must:
 - Plan paths strategically
 - Optimize placements within limits
 - Avoid dead ends
-

Progression System

Difficulty scales through grid size:

- 4×4 → Ages 4–6 (intro to logic)
- 5×5 → Ages 6–7 (basic strategy)
- 6×6 → Ages 7–10 (multi-step thinking)
- 8×8 → Ages 8+ (advanced planning)
- 10×10 → Ages 10+ (deep problem solving)

Progression increases complexity without changing core rules.

Value Proposition

1. Builds Core Skills

- Logical reasoning
- Problem solving
- Planning & foresight

2. Best of Both Worlds

- Feels like a maze game
- Plays like a logic puzzle

3. Zero Barrier to Entry

- No equipment needed
- Completely free to play
- Can be played anywhere

4. Simple Yet Deep

- Same rules across all levels
- Easy to learn, hard to master

5. Instant Engagement

- Quick to start
- Early wins build confidence
- Higher levels create challenge

6. Flexible Play

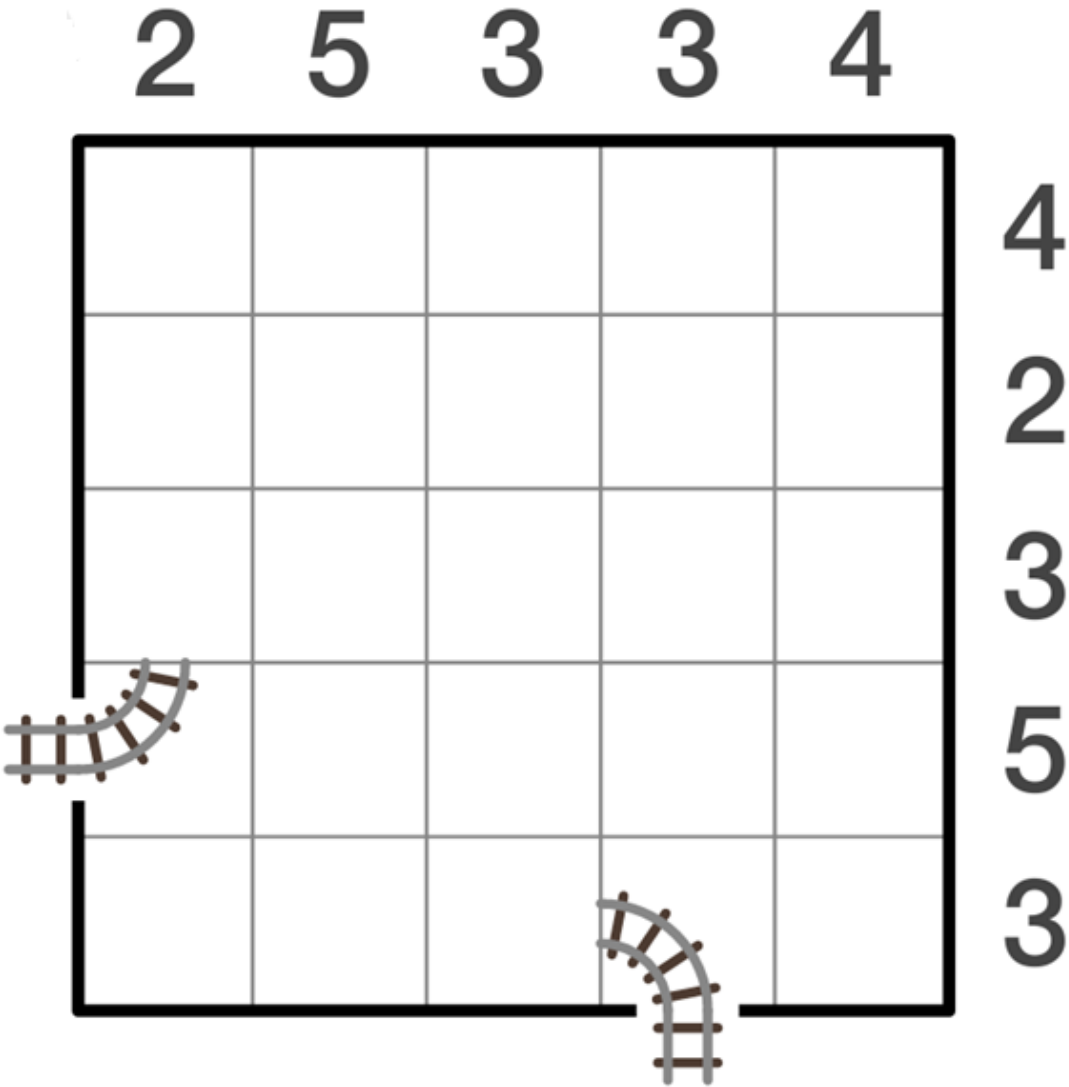
- Solo play (self-challenge)
- Multiplayer (race or compare solutions)

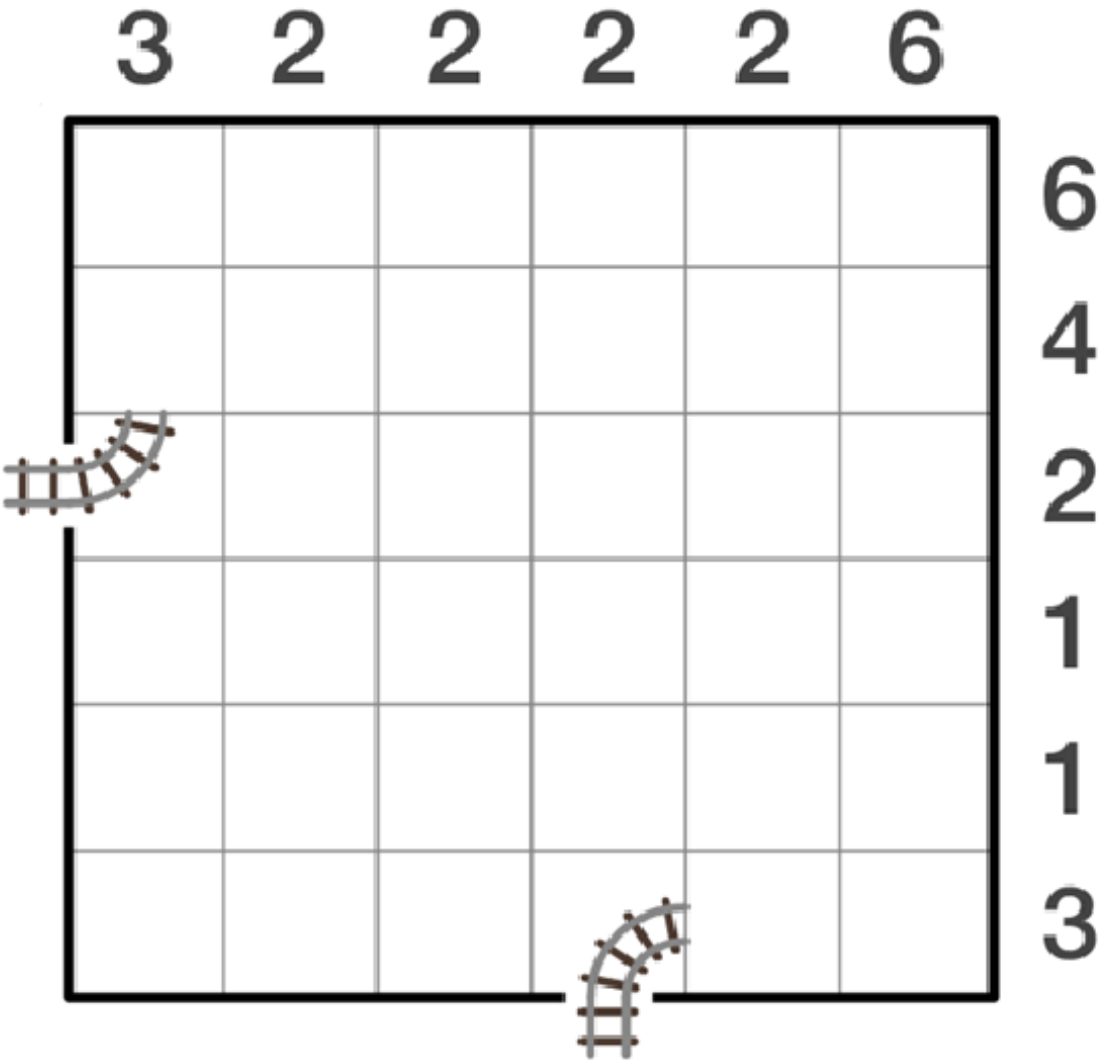
7. Age Agnostic

- Works for kids, teens, and adults

8. Infinite Replayability

- Unlimited puzzle variations
- No two games feel the same





Swinging Chakram (hexagonal)

Author: Markus Roth

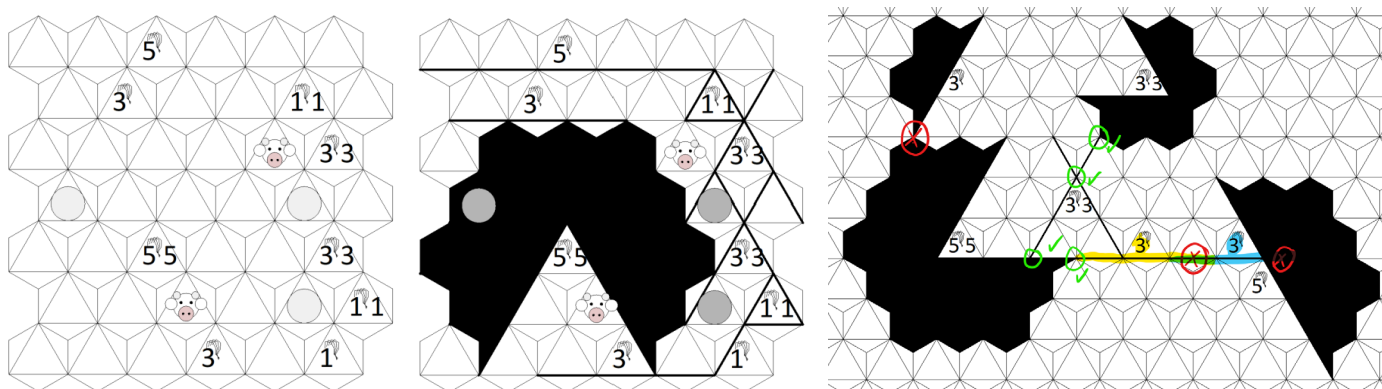
The Indian Chakram is a throwing ring designed for precise swinging and whirling. In each numbered hexagon, a warrior stands with one or two weapons, ready to throw at any moment. The swing is either vertical, like a wheel, or horizontal, covering a sector. The numbers indicate the maximum throwing distance at which the warrior can still reliably hit the target. A maximum of two numbers are permitted, one for each hand, using the same rotation.

Vertical Rotation: The center point must always be on the central triangle where the warrior stands. Lines may intersect, even with lines belonging to other warriors, but not overlap.

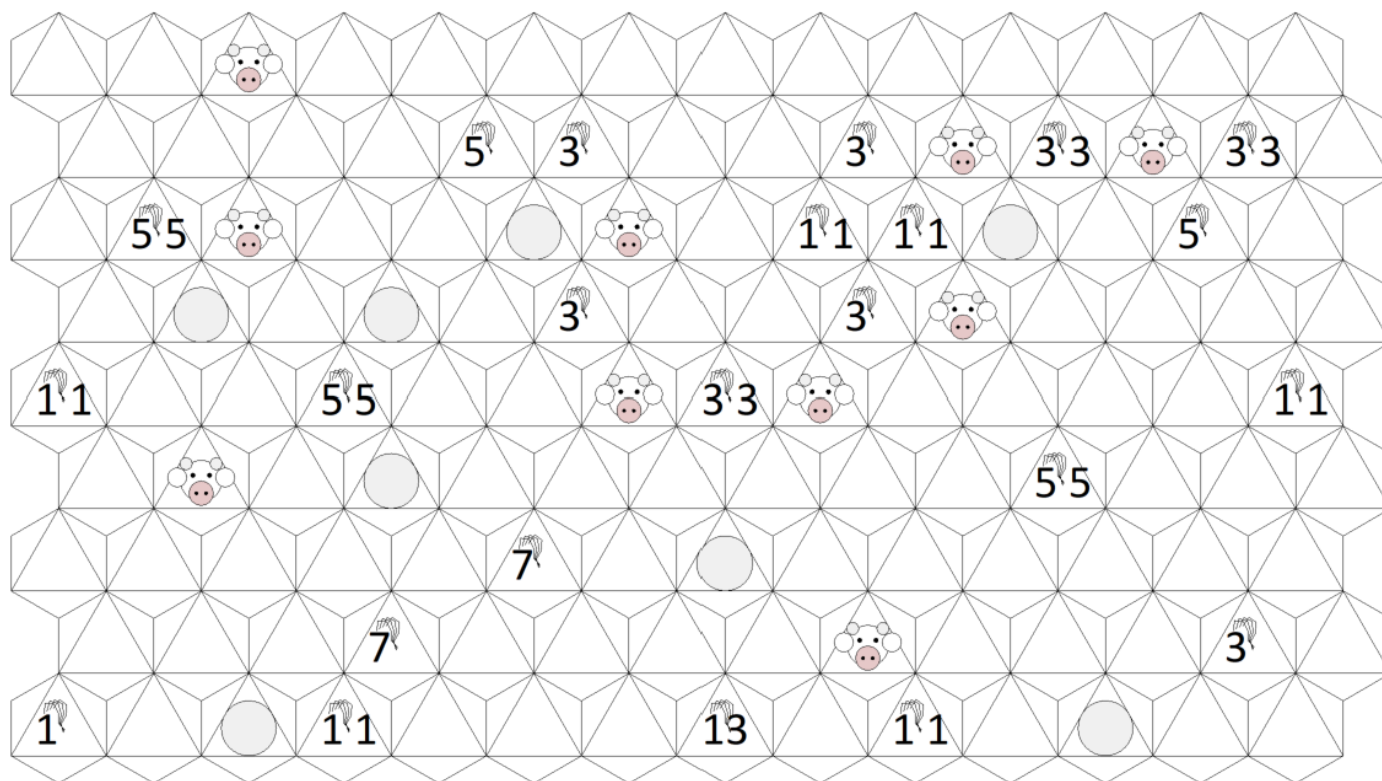
Horizontal Rotation: The throwing distance remains the same, but an entire sector can be covered, provided the throw distance is at least 3. This is so dangerous, however, that two such areas must not touch, not even at a single point. Lines may touch these areas at a single point, but must not enter them.

The weapons must cover the area in such a way that no enemy can leave without being stopped by a Chakram. But beware: there are also sacred cows that can leave the playing field at any time, if they want to and must not be hit.

Example:



Bigger puzzle



Swinging Chakram (triagonal)

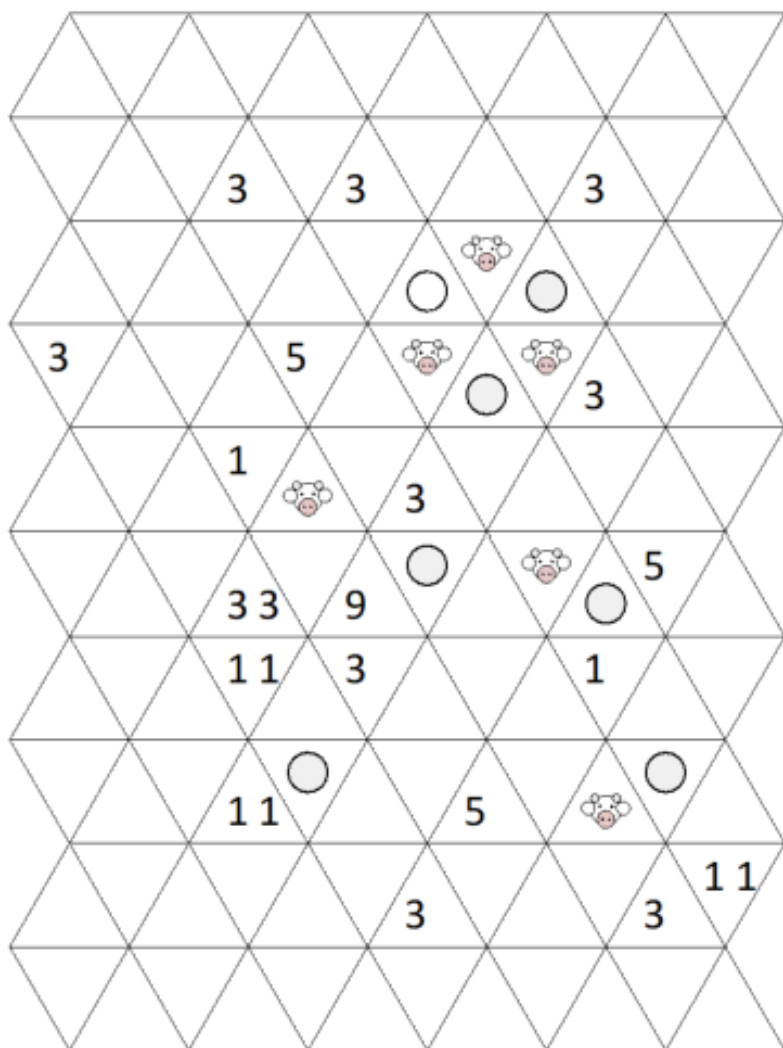
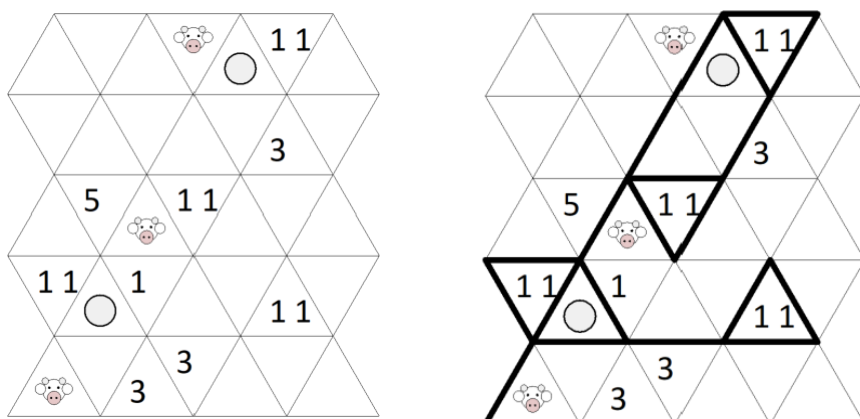
Author: Markus Roth

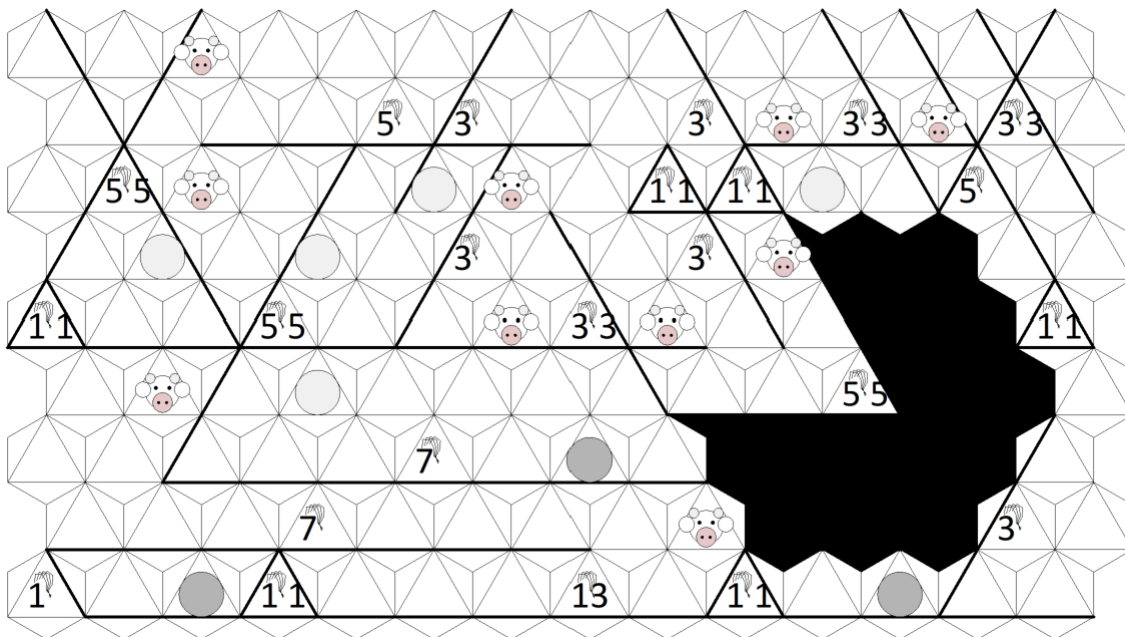
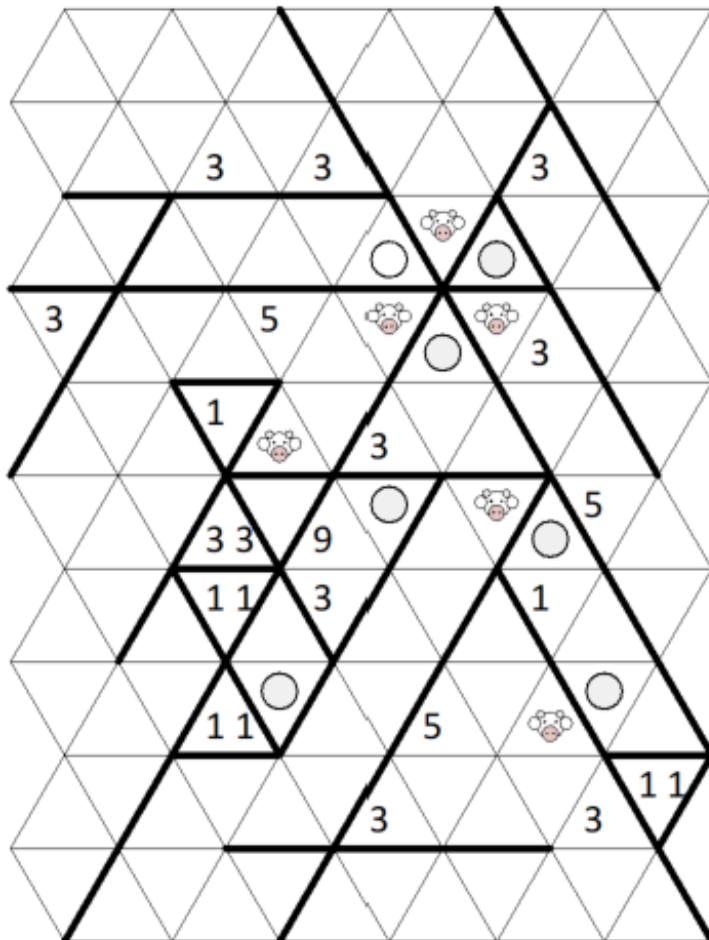
The Indian Chakram is a throwing ring designed for precise swinging and whirling. In each numbered triangle, a warrior stands with one or more weapons, ready to throw at any moment. The swing is either vertical, like a wheel, or horizontal, covering a sector. The numbers indicate the maximum throwing distance at which the warrior can still reliably hit the target. A maximum of two numbers are permitted, one for each hand.

Lines may intersect, even with lines belonging to other warriors, but not overlap.

The weapons must cover the area in such a way that no enemy can leave without being stopped by a Chakram. But beware: there are also sacred cows that can leave the playing field at any time, if they want to and must not be hit.

Example:



Swinging Chakram (Hexagonal)**Solution Swinging Chakram (triagonal)**

Title: Magnet Chain

Author: Sigmit64

Disclaimer: This rule has been used in a local contest in December 2025 as an instructionless puzzle, but never published to a public platform. Puzzle 1, 2, 3 are used in the contest while Puzzle 4 is never used. I'm not sure if this satisfies the requirement of PIC.

Rules:

Place numbers from 1-N to the board. Each number must be used exactly once. For the number i on the board, the numbers $i-1$ and $i+1$ (if they exist) must be in the same row or column as i , and the distance between them must be 2 or less. There should not be any other numbers in the range around i . (In other words, numbers from 1-N form a generalized snake.)

Example Puzzles:

1. <https://tinyurl.com/2cjtxrdf>
2. <https://tinyurl.com/228vkpxt>
3. <https://tinyurl.com/268ocvgz>
4. <https://tinyurl.com/24smfm9f>

1-20

1						9
	5				7	
	17				14	
19						12

1-31

1							17
		31			20		
		24			22		
26							12

1-38

	7			12			
				36		32	
18			16				
				22		27	

1-38

	1						19
		24			17		
		4				7	
		33				36	
			27		14		
	30						38

Solutions:

1-20

1		2			8	9
	5		6		7	
	4	3				10
20						11
	17	16		15	14	
19	18				13	12

1-31

1	2		3	4			18	17
				5	6			16
		31				20	19	
29		30			7			15
						21		
28					8			14
		24		23		22		
27					9			13
26		25			10		11	12

1-38

		10		11				
6	7			12		13		
	8	9			35		34	33
5			38			14		
4			37		36			32
	18	17		16		15		30
3								
	19		20		21			29
2				23	22			27
1				24		25		26

1-38

			23		22		21	20
2	1					18		19
			24			17		
3		4		5	6		7	8
			25			16		
			26			15		9
32		33		34	35		36	37
			27			14		10
31	30							38
	29		28			13	12	11

Title: Springs

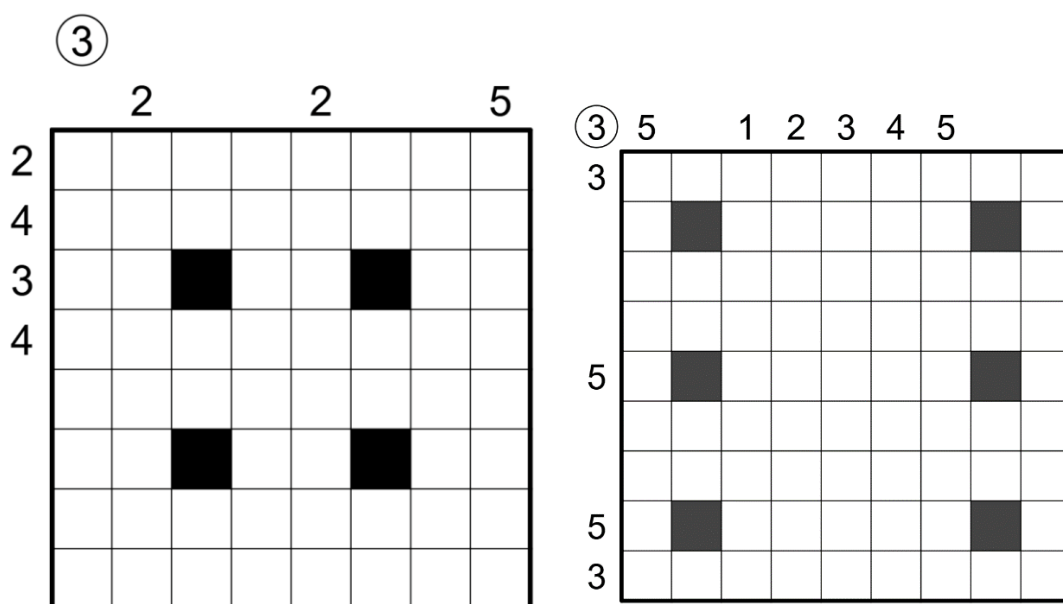
Author: Sigmit64

Rules:

1. Place some $1 \times N$ rectangles (called springs) on the board.
Springs may not be placed on shaded cells.
2. Two springs may not be orthogonally adjacent.
3. Clue indicates how many cells are occupied by a spring in that row or column.
4. Springs must have given length, unless both of its sides are attached to shaded cells or border.

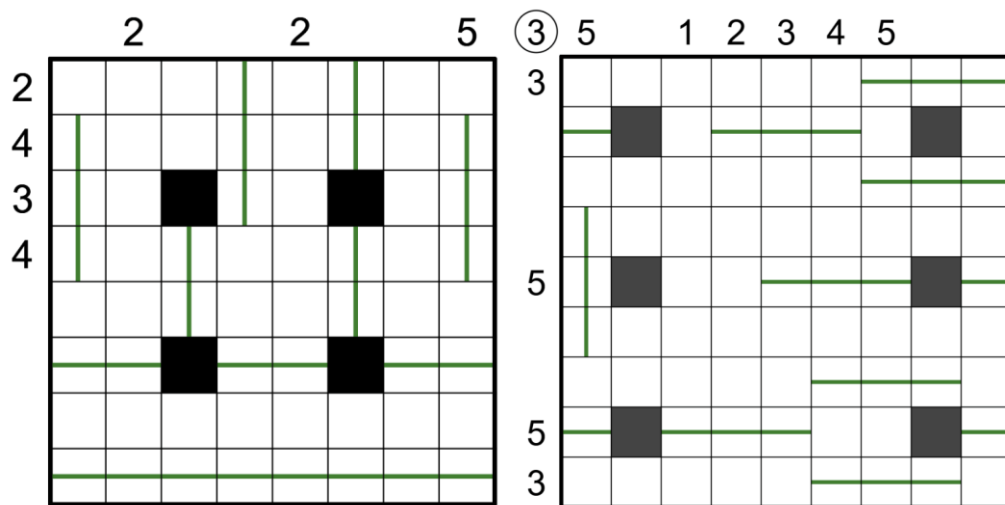
Example Puzzles:

1. <https://tinyurl.com/28rmgwdt>
2. <https://tinyurl.com/26vbtz7d>

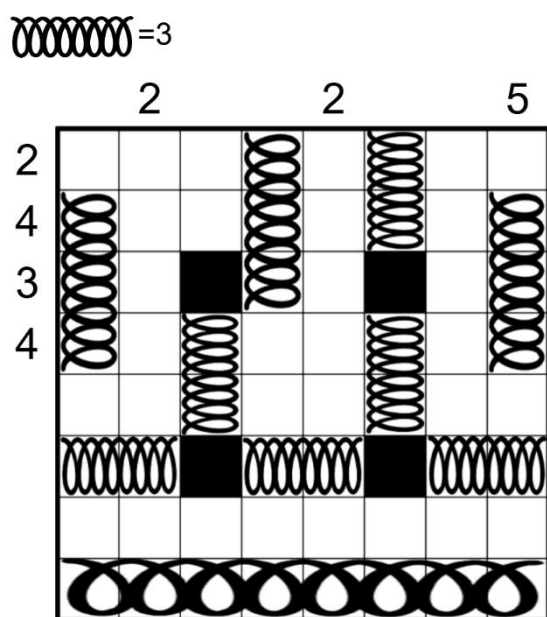


Draw Walls in green for answer check.

Solutions:



Also a version with actual springs:



Title: Square Chain

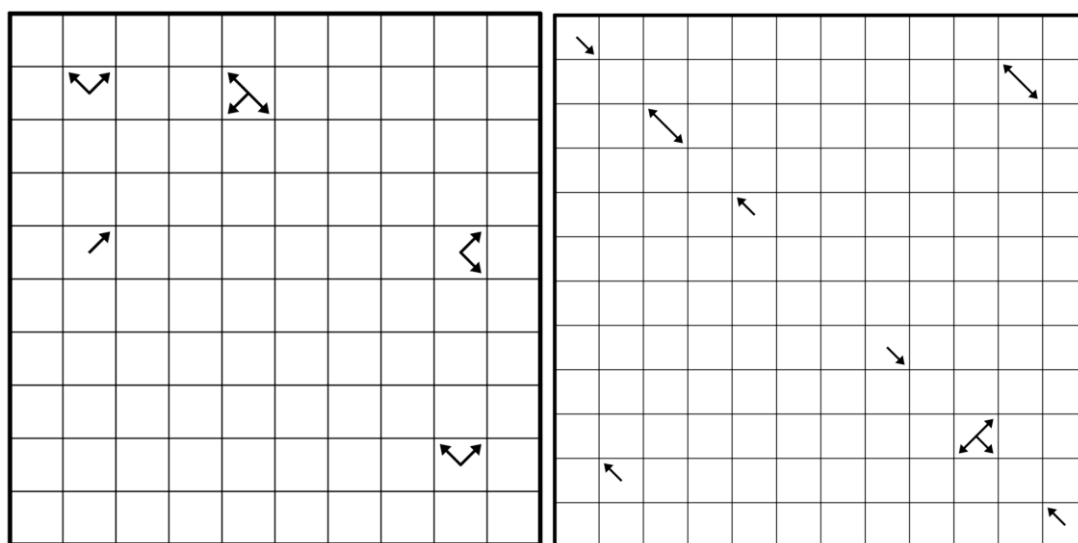
Author: Sigmit64

Rules:

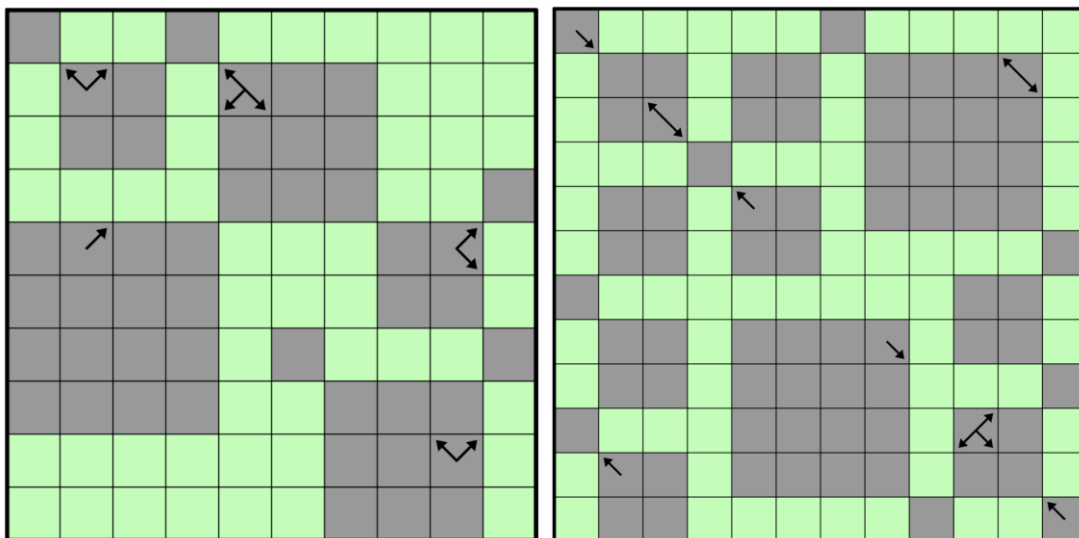
1. Shade some cells on the board. Every group of shaded cells must form a filled square.
2. Clues must be shaded, and indicates the direction of the diagonally adjacent neighbors of the square covering it. A square can cover none or multiple clues, as long as they are all the same.
3. Squares with same size must not be diagonally adjacent.
4. All shaded cells form a diagonally contiguous area.

Example Puzzles:

1. <https://tinyurl.com/2bspkb9b>
2. <https://tinyurl.com/2byofzlp>



Solutions:



Title: Number Stitches

Author: Sigmit64

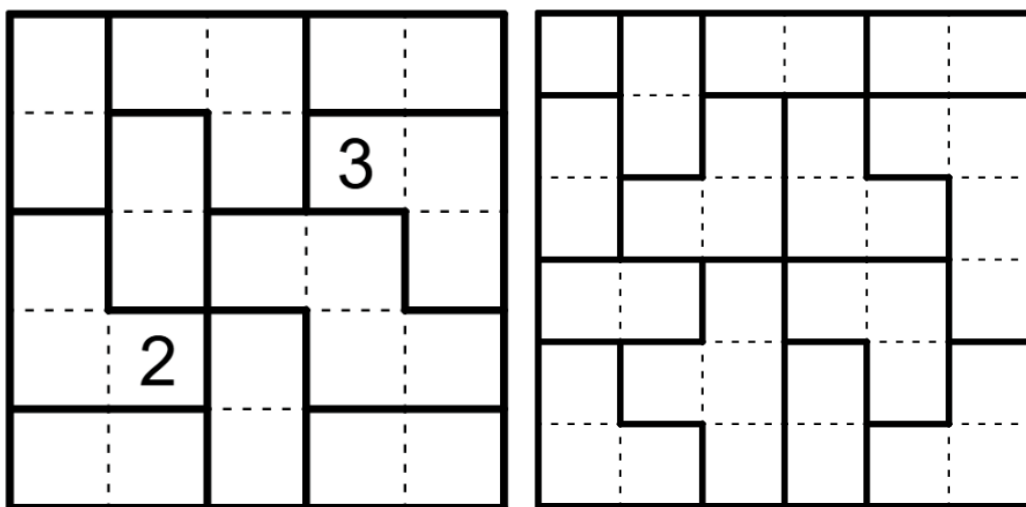
Rules:

1. Place number 1-N in each region, where N is the size of the region. Some numbers may be already placed.
2. Draw a line between all adjacent same numbers (called stitches). A number belongs to at most 1 stitch. (That is, an orthogonally connected group of the same number cannot have a size of 3 or higher.)
3. Stitches connect all regions to a contiguous area.

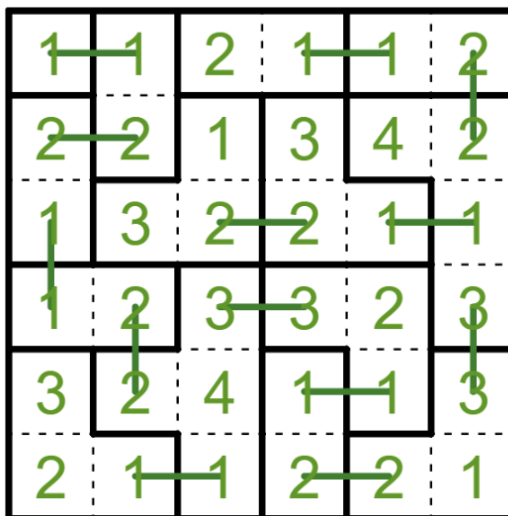
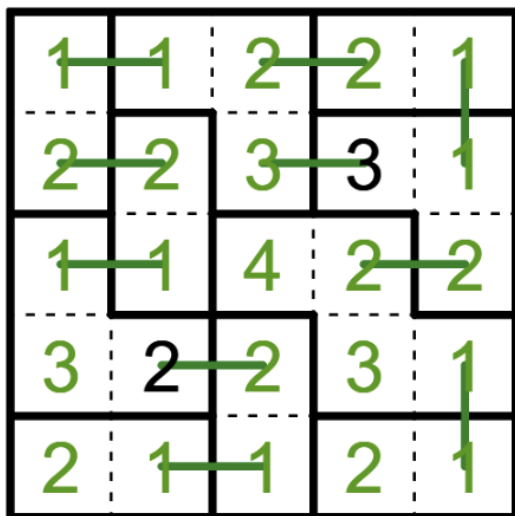
Example puzzles:

1. <https://tinyurl.com/238xqlru>
2. <https://tinyurl.com/23fdrrl9>

Answer check checks both numbers and lines.



Solutions:



Title: X-Sandwich

Author: Sigmit64

Rules:

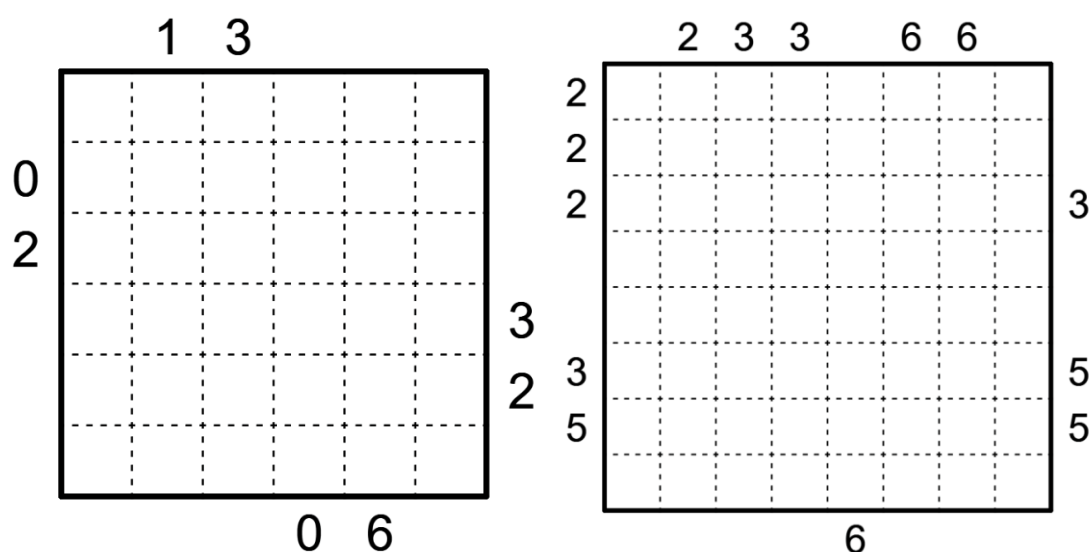
1. Place a number from 1 to $N/2$ into each cell so that each row and column contains every number from that range exactly twice, where N is the side length of the grid.
2. A clue outside the grid indicates the sum of all numbers between two Xs in the corresponding row or column from the direction of the clue, where X is the first number in that row or column from the direction of the clue.

(For example: 5 -> 1 2 3 1 3 2 <- 7)

Example Puzzles:

1. <https://tinyurl.com/2273rd8n>

2. <https://tinyurl.com/29dd9cvc>



Solutions:

A 6x6 grid of blue numbers from 1 to 3, with row and column indices labeled on the left and bottom.

	1	3				
0	3	2	1	2	3	1
2	1	1	3	3	2	2
	1	2	1	3	2	3
	2	1	3	2	1	3
	3	3	2	1	1	2
	2	3	2	1	3	1
				0	6	

A 7x7 grid of numbers. The numbers are arranged in a 7x7 grid. The numbers are: 3, 1, 1, 3, 4, 2, 4; 3, 2, 3, 1, 4, 1, 2; 2, 1, 1, 2, 3, 4, 3; 2, 4, 4, 3, 2, 1, 1; 1, 4, 3, 1, 2, 2, 4; 4, 3, 4, 2, 1, 3, 1; 4, 3, 2, 4, 1, 3, 2; 1, 2, 2, 4, 3, 4, 3. The marginal totals are: 2, 3, 3, 6, 6 (top); 2, 2, 2, 3, 3, 2, 5 (left); 3, 3, 5, 6 (right); 6 (bottom).

Title: Tren (Polyomino)

Author: Sigmit64

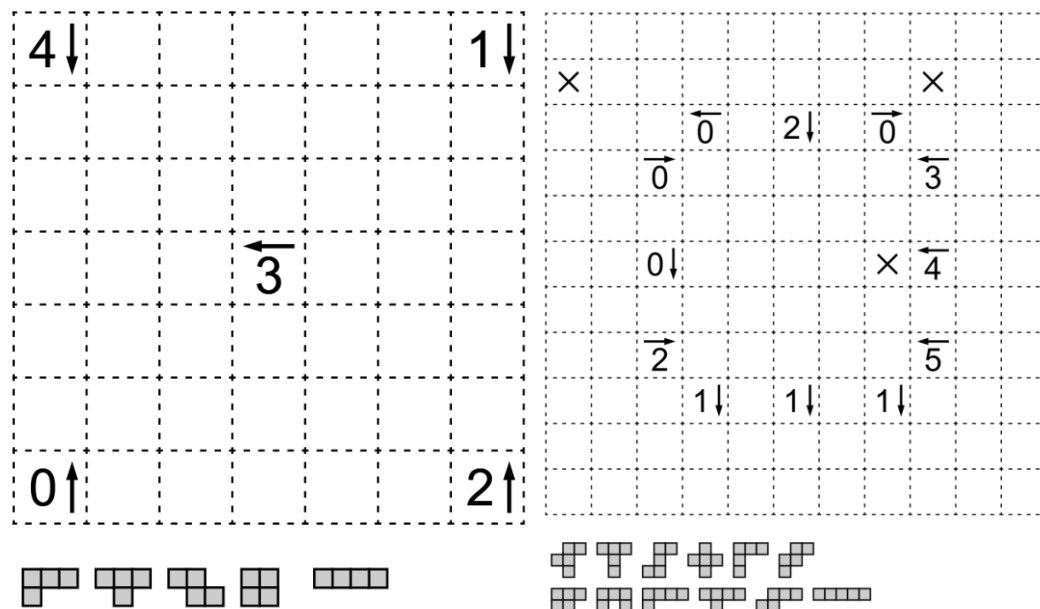
Rules:

1. Place each shape from the bank given outside the grid into the grid such that each shape overlaps exactly one clue and each clue is overlapped by exactly one shape.
2. Shape may not overlap crosses.
3. Clues indicate how many blocks can the shape slide in the given direction, assuming all other shapes are stationary.

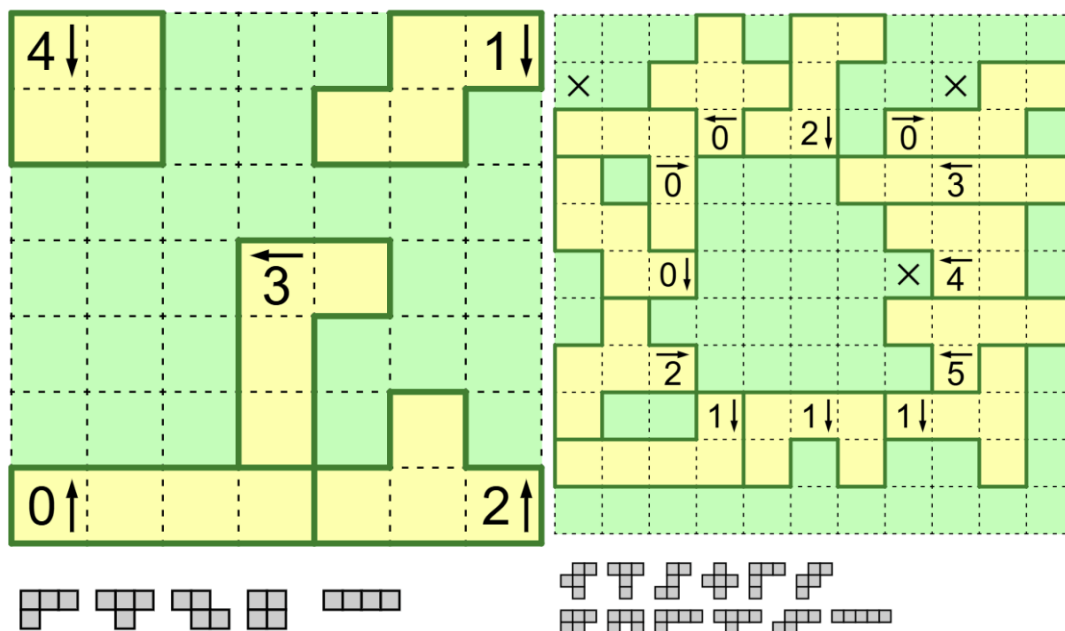
Example puzzles:

<https://tinyurl.com/22ghtwwj>

<https://tinyurl.com/2y2kkgss>



Solutions:



Submission of PIC 2026

Name: Easy As (Clue Pool)

Author: Soliloquies. (from CHN)

Rule: Place a letter from the indicated list into some empty cells so that each letter in the list appears exactly once in each row and column. Clue cells indicates all of the first letters that can be seen in four orthogonal directions, not necessarily in order.

Example puzzle and its solution:

{A,B}				
	A _B			
				B _B
		A _A _B		
A _B				
			A _A _B	

{A,B}				
	A _B	A	B	
A	B			B _B
	A	A _A _B		B
A _B		B	A	
B			A _A _B	A

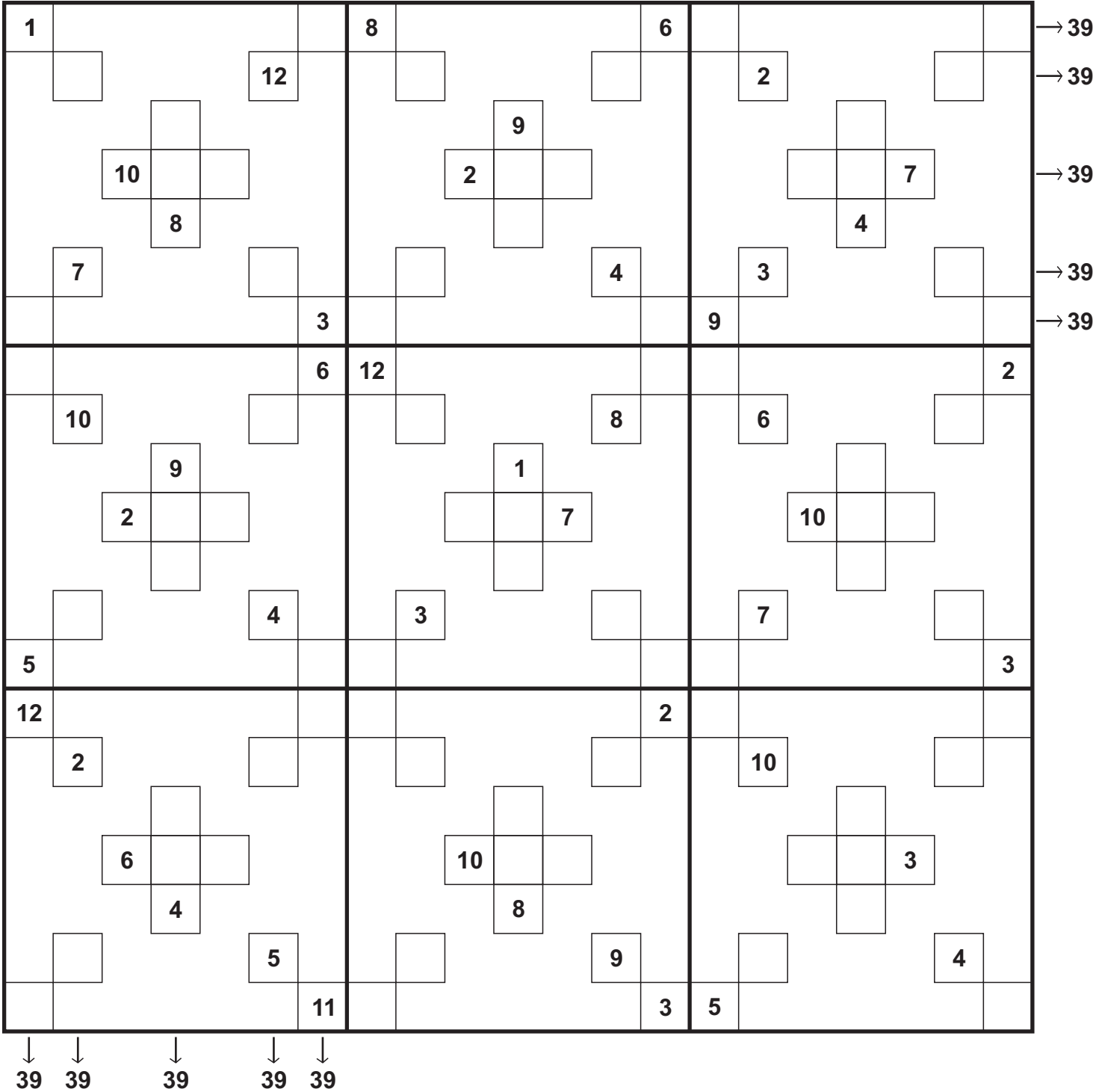
SUTHASA

(The Magic of 12)

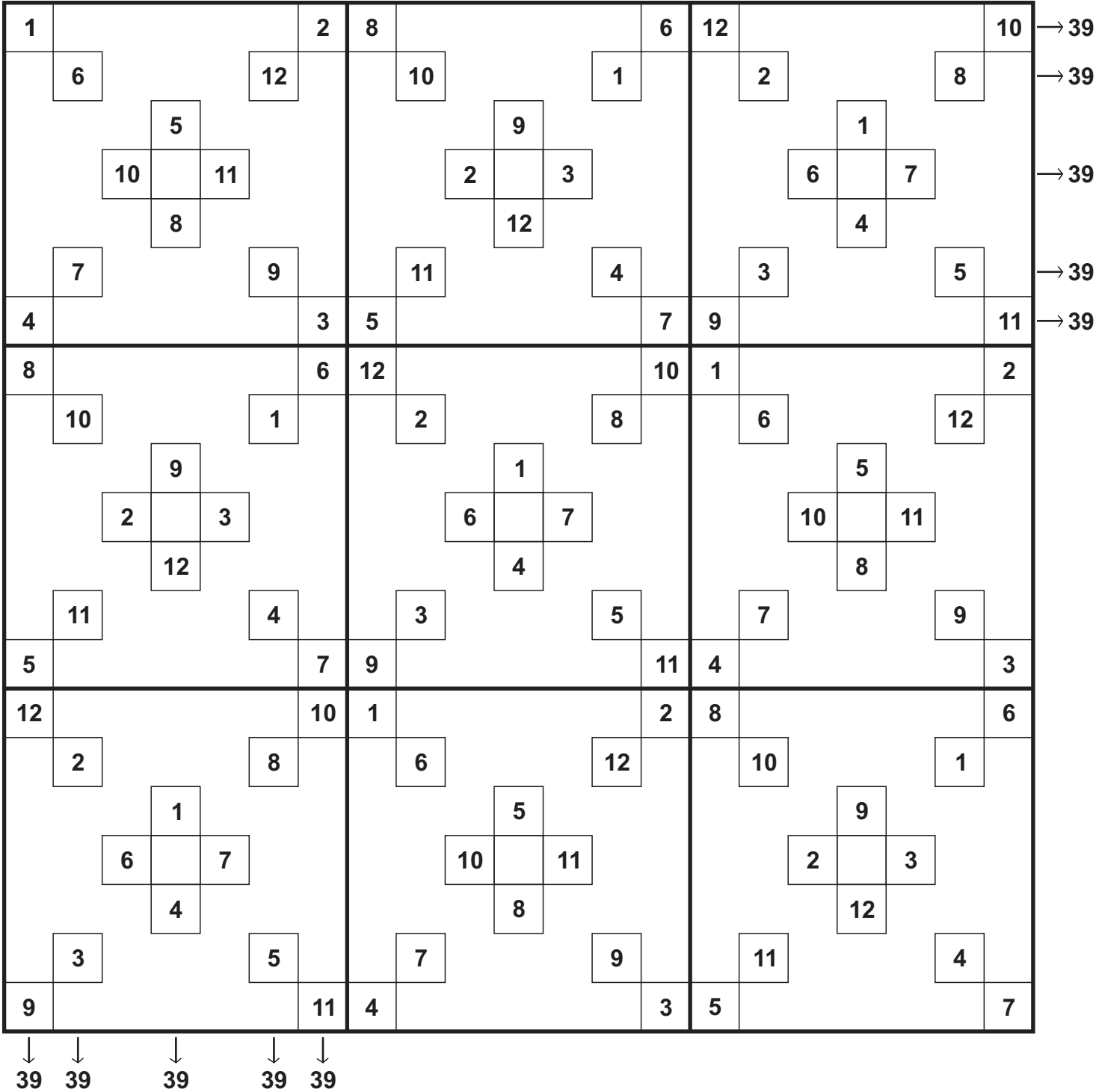
The Game

Fill up the empty boxes with numbers from 1 to 12 without repeating one in any column/row to arrive the sum 39 in all the columns and rows. Each compartment must have all the 12 numbers.

THE PUZZLE



THE ANSWER



SARAS-G

(The Numerical Sandwich)

The Game

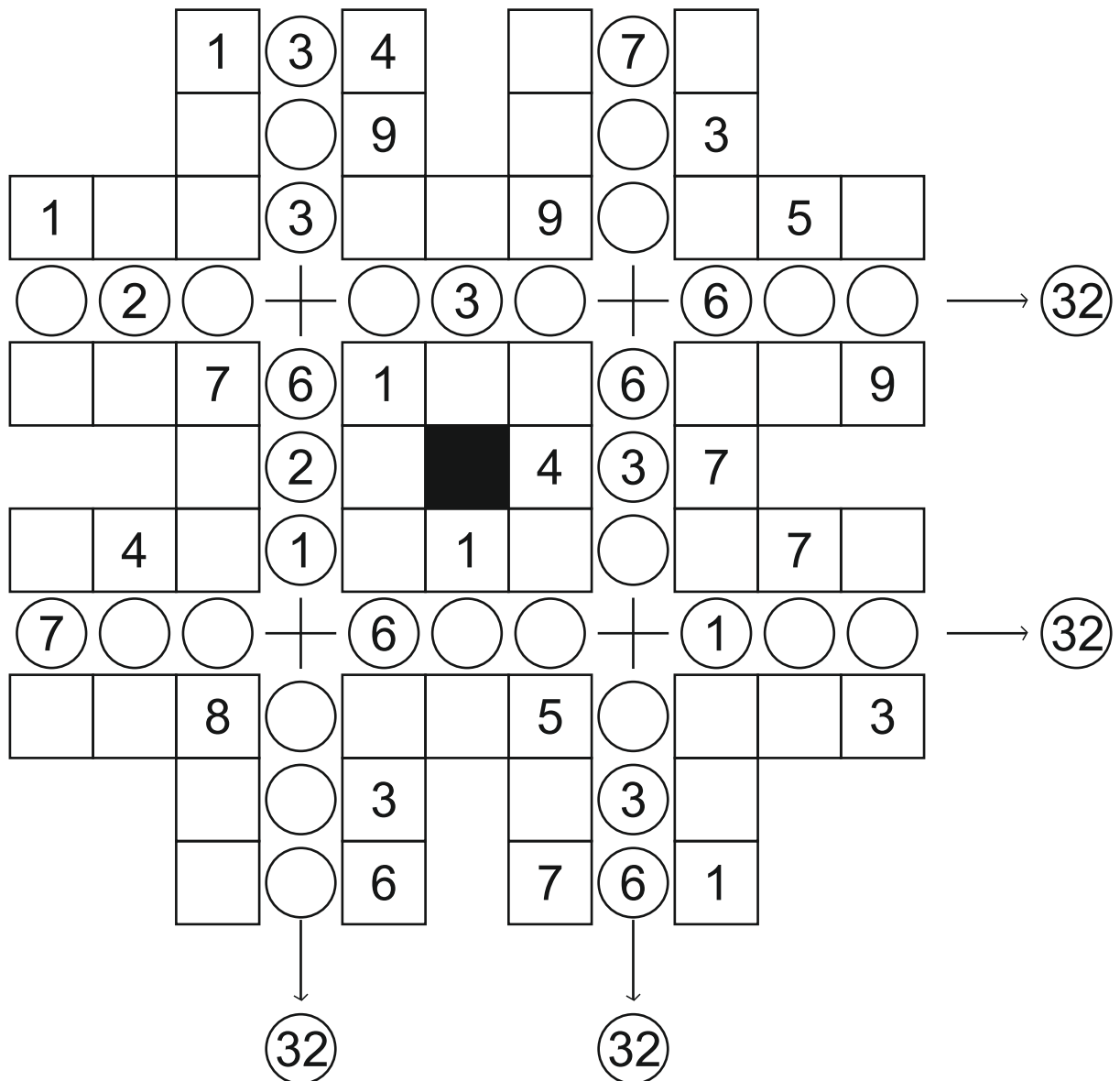
The square box series are for filling the missed numbers from 1 to 9. The round box numbers represent the differential value between the two sidewise square box numbers.

Fill the missed numbers in the square box series followed by the round boxes to attain the same sum value given in the four round box series finally.

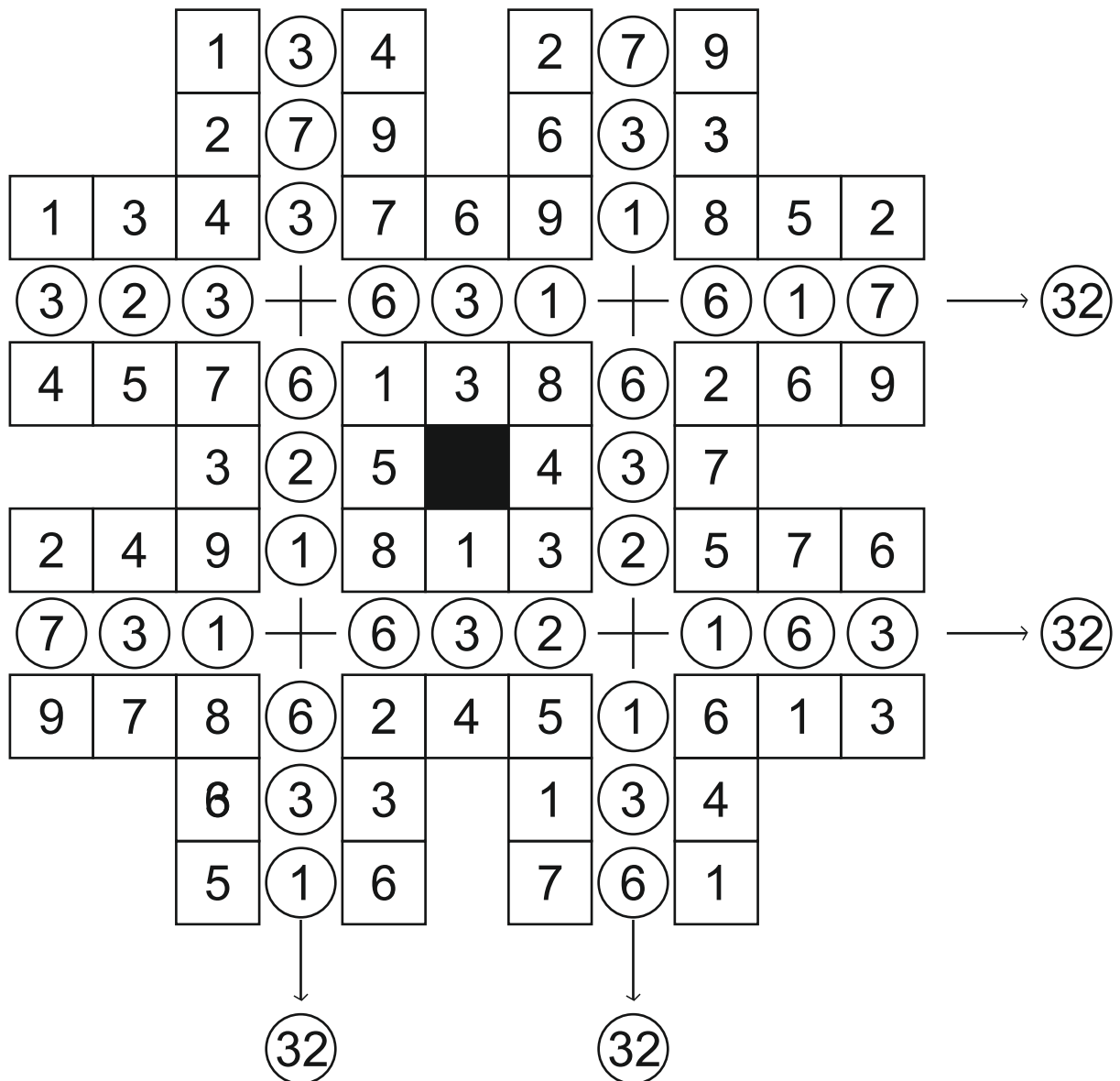
Rules :

1. A number in the square box columns and rows should not be repeated again.
2. The filling square box numbers should match with the differential values given in the Round boxes.

THE PUZZLE



THE ANSWER



Submission to PIC 2026

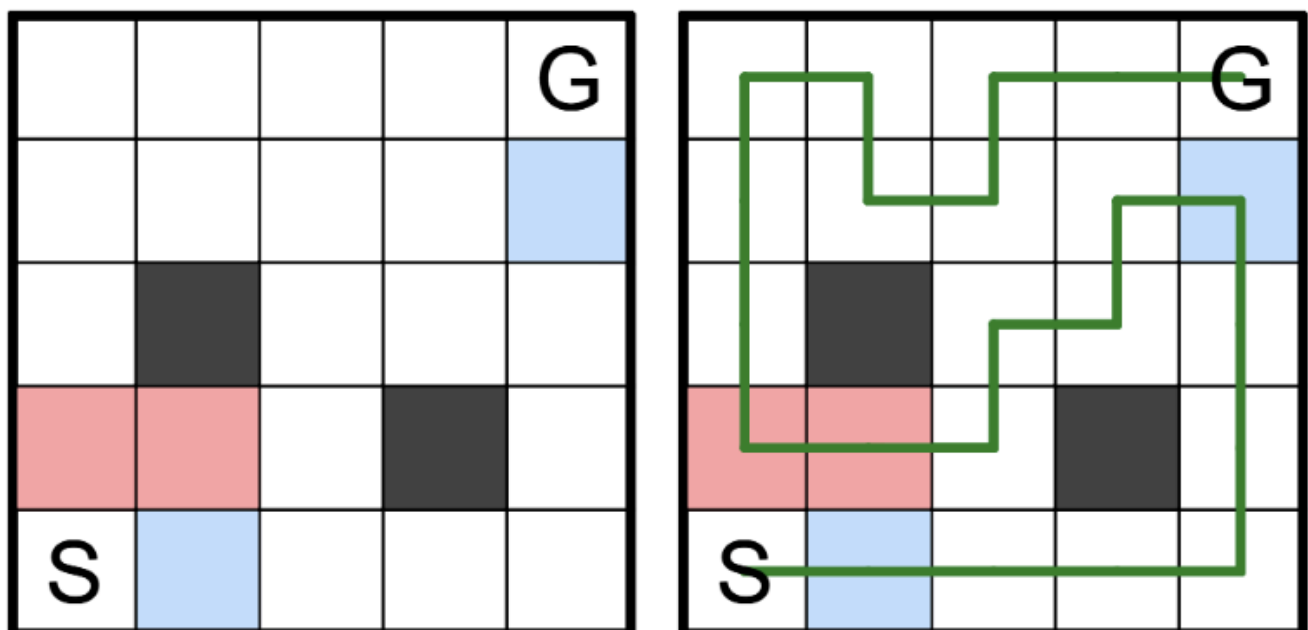
by Yiyue Shi

Fuga a 3 Soggetti

Rule

Draw a continuous path from S to G that passes through all empty cells. At any point along the path, the number of blue cells visited must be greater than or equal to the number of red cells visited. The path cannot pass through any gray cells.

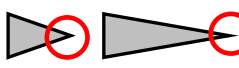
Example

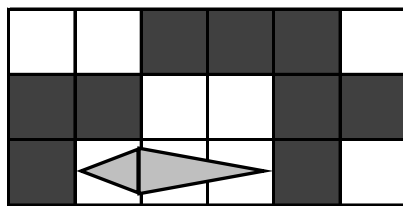


<https://tinyurl.com/2787vzue>

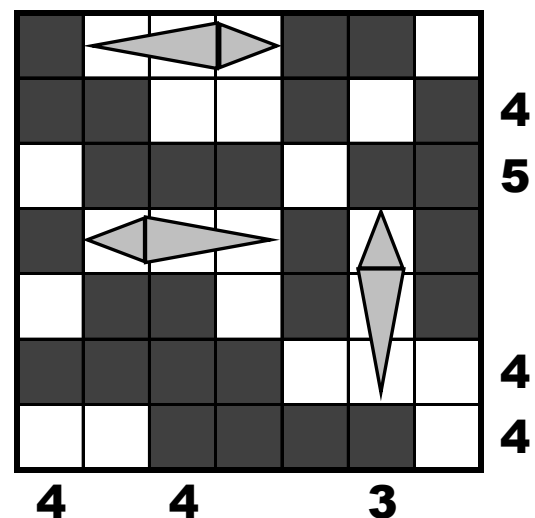
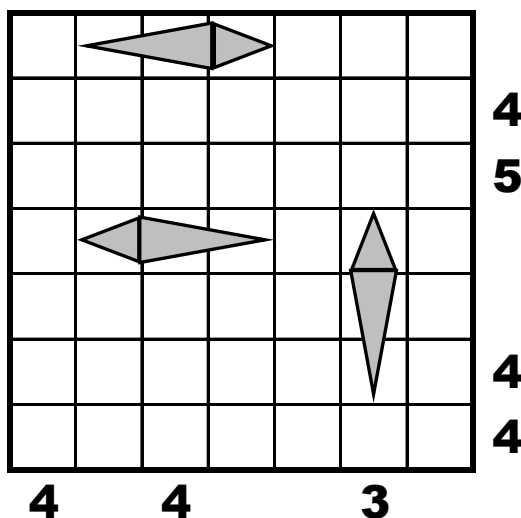
KHANDA THRUST



1. Shade some cells on the board.
2. There is a block of one or more cells at the tip of the sword.
 is tip of the sword.
3. The number of cells in the block pointed to by  is twice the number of cells in the block pointed to by .
4. Block is always pointed at by only one sword.
5. Numbers outside the grid, if given, indicate how many cells in that row or column are occupied by the block.



3cells block, and 6cells block.



Yosuke Imai (Japan)

y_101@hkg.odn.ne.jp

Mainak Parbat

Place digits from 1 to N (N is the side length) into each cell such that every row and column contains each digit exactly once. There exists at least one uninterrupted run of strictly rising digits (viewing from the direction of the clue) that add up to the number given outside the corresponding row or column.

	5	6			6	
9						18
						6
4						
7						13
						5
10						8
	6		7			

	5	6			6		
9	3	6	5	4	2	1	18
	1	3	4	2	6	5	6
4	4	1	2	3	5	6	
7	2	5	1	6	4	3	13
	5	4	6	1	3	2	5
10	6	2	3	5	1	4	8
	6		7				

Possible variations: 1 to N-1, Sum of Odd/even digits, and so on

Agni Ban

Shade some cells (indicating fire) such that every arrow points to more shaded cells in its direction than in the direction exactly opposite to it. Given numbers count the quantity of shaded cells in their row and column added together (numbered cells must be unshaded).

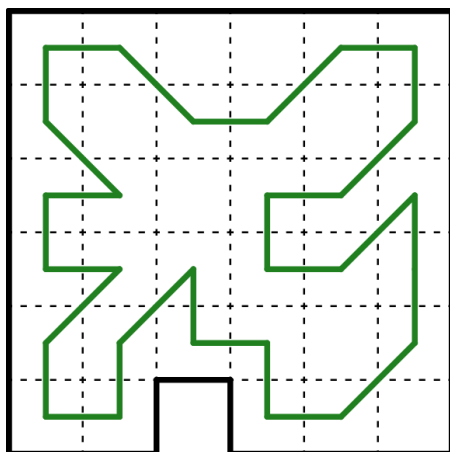
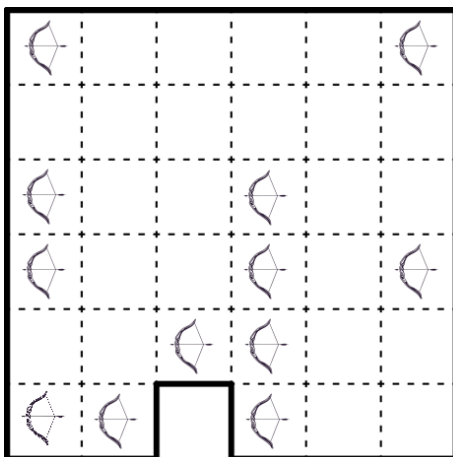
	5				
		←		↑	
↓			4		
	2				3
	←		2		
				→	

	5				
		←		↑	
↓			4		
	2				3
	←		2		
				→	

Possible variations: Single group of orthogonally connected shaded cells, and so on

Chakravyuh

Draw a loop passing through all cells marked with a "bow". The loop must alternate between diagonal (for example r1c1 to r2c2) and orthogonal (for example r2c2 to r1c2) movement, with the exception that it must enter and exit a bow strictly orthogonally.



Possible variations: All cells visited, more weapons with different behaviour

Paasa

Place digits from 1 to N (N is the side length) into each cell such that every row and column contains each digit exactly once. If a cell contains one circle, the number in the cell must have a difference of exactly 1 with that in at least one of the orthogonally adjacent cells. If a cell contains two circles, the number in the cell must have a difference of 2 or more with that in all of the orthogonally adjacent cells. Not all such cells are marked. Some numbers may be given.

	5			
○	○ ○	○ ○		
		○	○	
	○		○	○
4	○	○		
○ ○	○ ○	○ ○	2	

2	5	1	4	3
○	○ ○	○ ○		
3	2	4	5	1
		○	○	
5	4	3	1	2
	○		○	○
4	1	2	3	5
○	○	○		
1	3	5	2	4
○ ○	○ ○	○ ○	○	

Possible variations: One unused cell in each row and column

Ram Setu

Shade some stones (monominoes and dominoes) alternatingly such that each monomino is diagonally adjacent to exactly two dominoes and vice versa, except the figure that overlaps with an 'S' and one that overlaps with an 'E'. In other words, starting in the cell marked 'S', and ending in 'E', you must be able to trace a non-branching, non-looping path that visits all shaded cells. Unshaded cells must form water masses enclosing exactly one number or none; the number indicates the count of the cells in the water mass.

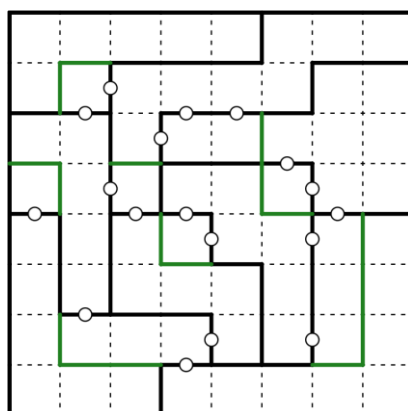
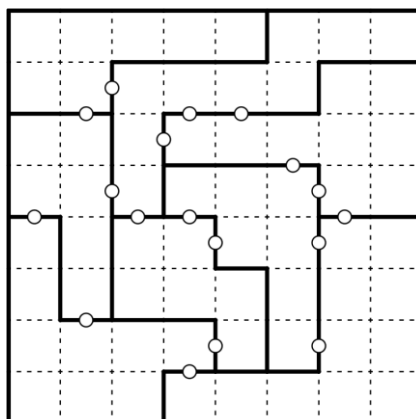
S	23					E	
5							
							3
		8					

S	23					E	
5							
							3
		8					

Scope for variations: choice of larger stones forming the bridge, possibility of extending to triangular grids

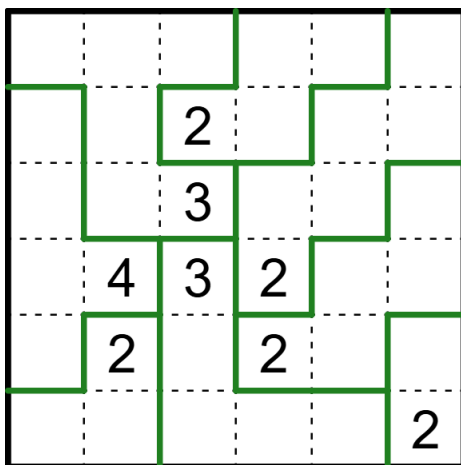
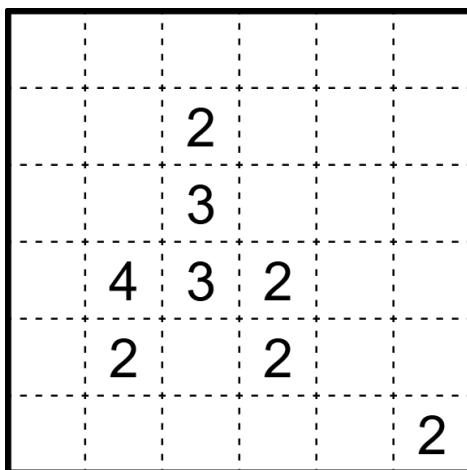
Box & Blob

Divide each outlined region in exactly two parts – one rectangular and the other of irregular shape. There must be one rectangular shape and one non-rectangular on either side of an edge with a given circle.



Frontage

Divide the grid into orthogonally connected regions that each contain exactly one given number. Every region must touch the outer frame of the grid and that strip of uninterrupted cells must be the longest side of the region (the other sides can be of the same length but not longer). A given number indicates the length of the longest side. Every cell of the outer frame must be part of a region's dominant side.



Scope for variations: Given edges instead of numbers

Connectomino

Divide the board along gridlines into regions of orthogonally connected cells. A given number indicates the count of (up to 4) orthogonally adjacent cells that are part of the region containing the clue cell. No two regions sharing an edge can be of the same size.

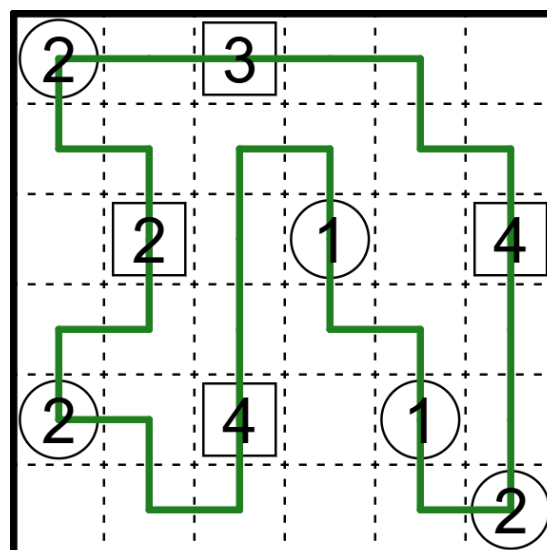
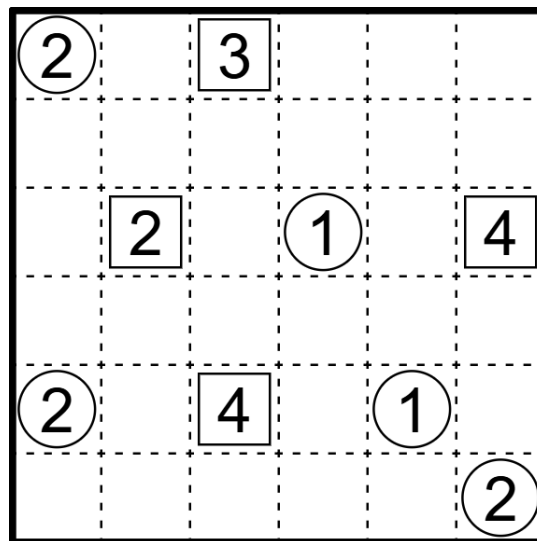
1	2	1	2	2	2
1	2	2	1	0	
3	1	0	2	2	3
2		2		1	
	3		1	3	2
		2			

1	2	1	2	2	2
1	2	2	1	0	
3	1	0	2	2	3
2		2		1	
	3		1	3	2
		2			

Scope for variations: Consecutive, non-consecutive, unique, odd, even, Shikaku, and so on.

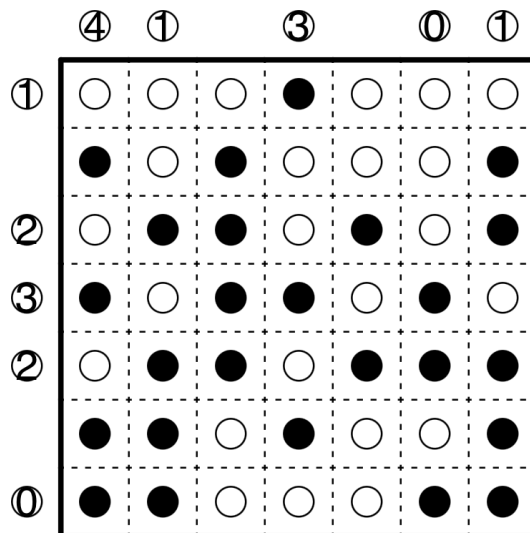
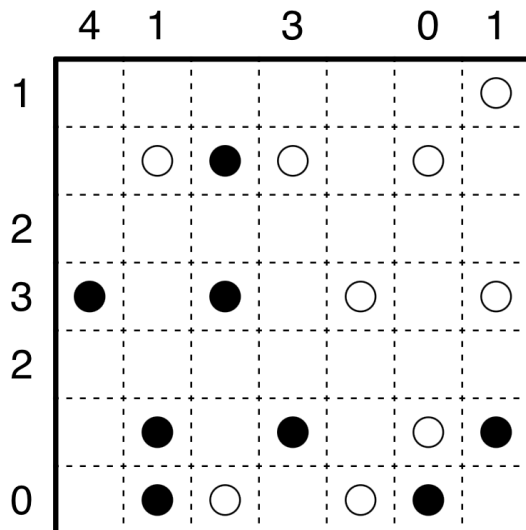
Splice

Draw straight orthogonal lines through the centres of some cells to form a loop. The loop must visit all clue cells. A given number in a circle indicates how many line segments meet in that cell. A given number in a square indicates the length of the line segment passing through that cell (segments always pass straight through squares). The loop cannot intersect itself or branch off.



At Odds

Place a black or a white circle in each cell on the grid. Numbers outside indicate the count of circles in the corresponding direction that have circles of opposite colour in all (up to four) orthogonally adjacent cells.

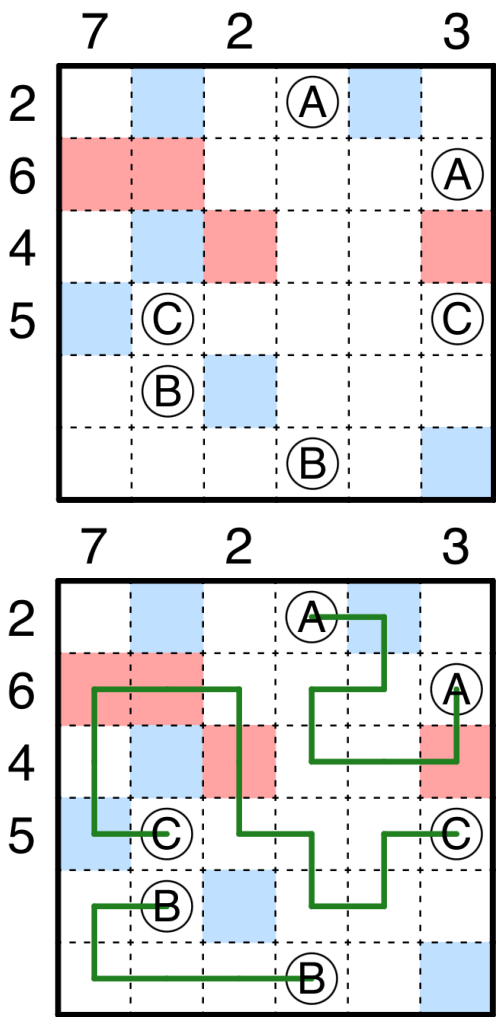


Refractive Indices

Connect every pair of same letters with a single non-intersecting, non-branching, and orthogonal path. The paths cannot loop into themselves. The paths begin and end in the corresponding letters. Paths cannot intersect or overlap with other paths. Different colours carry weights according to below rules:

- A path going straight through a white cell or a colored cell adds no (zero) points.
- A path turning in a white cell adds 1 to the count.
- A path turning in a blue cell adds 2 to the count.
- A path turning in a red cell adds 3.

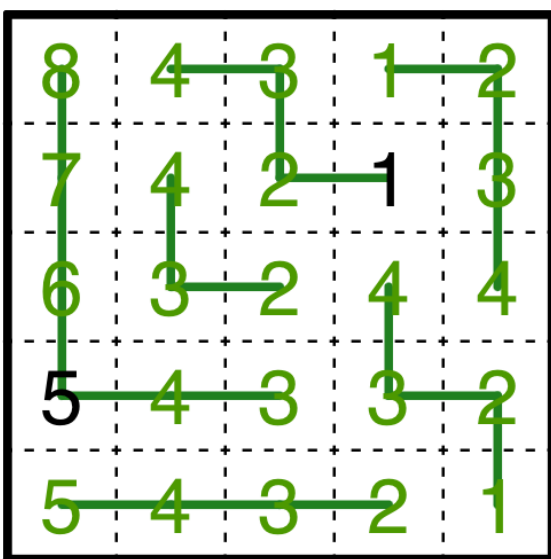
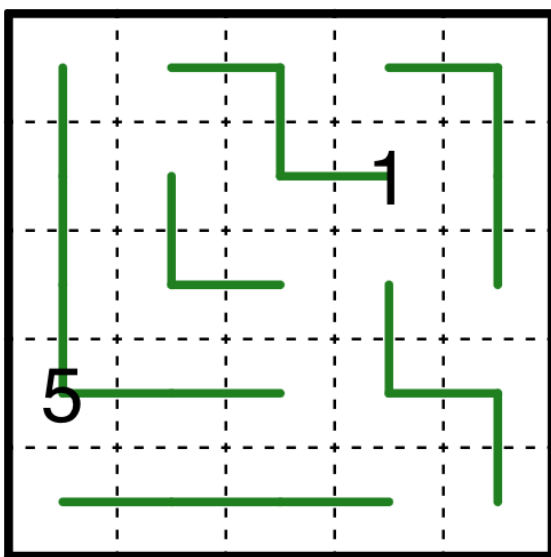
Numbers outside indicate the total path count of all cells in the corresponding direction. Cells containing letters do not count towards the total.



Variant scope: Interesecting paths, Letters placed outside the grid

Ghost Town

Place a number from 1 to 9 into each cell. Numbers along a line must form a strictly increasing sequence of consecutive numbers (starting in any number). On each line, at least two numbers must have their ghosts (equal number) in one or more of the orthogonally adjacent cells.



Frontier

Shade some cells such that no 2x2 area of cells is fully shaded and all shaded cells across the entire grid form a single, orthogonally connected group. Between any two bold outlined regions, there can only be at most one edge – the frontier - with both its adjacent cells shaded. A number, if given, counts the number of regions that the clued region establishes a frontier with.

1	3		3	2		1
	1					
			1			
	2					
1		0				
	3					

1	3		3	2		1
	1					
			1			
	2					
1		0				
	3					

Venomous Sums

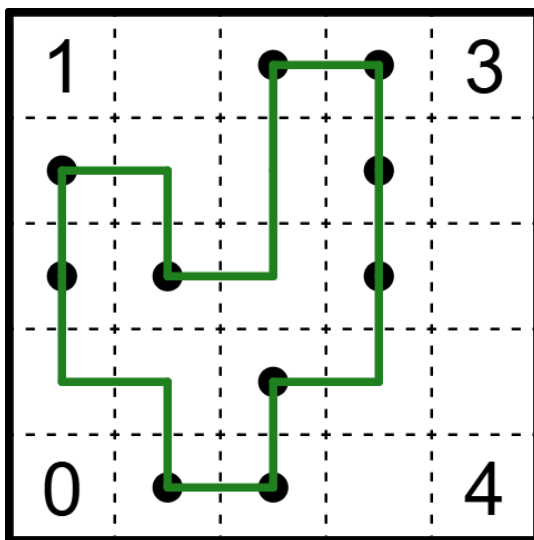
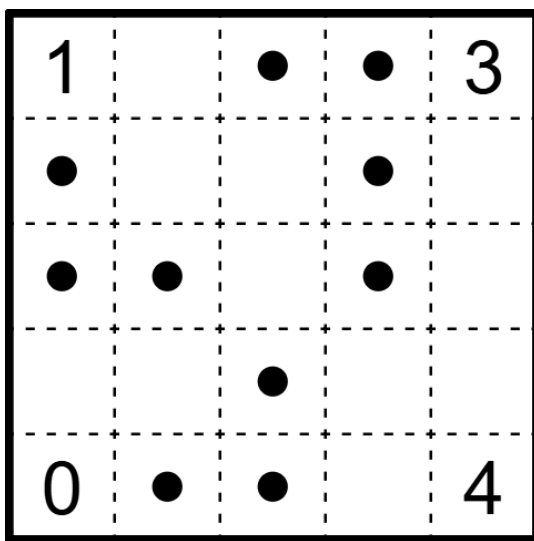
Fill some cells with a number each, forming snakes – orthogonally connected groups 1-cell wide that do not touch themselves even at a point. Numbers within a snake can start with 1 or larger, must be ascending and consecutive. Every snake must touch at least one other snake diagonally. No two snakes in a group of diagonally connected snakes may have the same sum of all their numbers.

	2		2		
					3
			1		
3				1	
		1			1
			1		

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

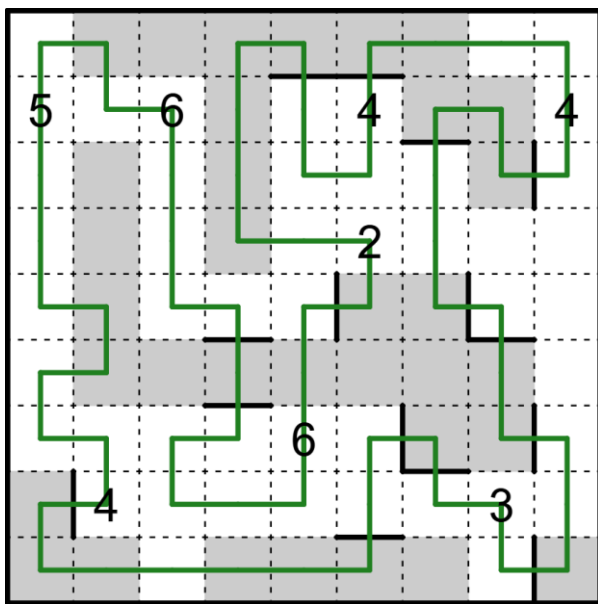
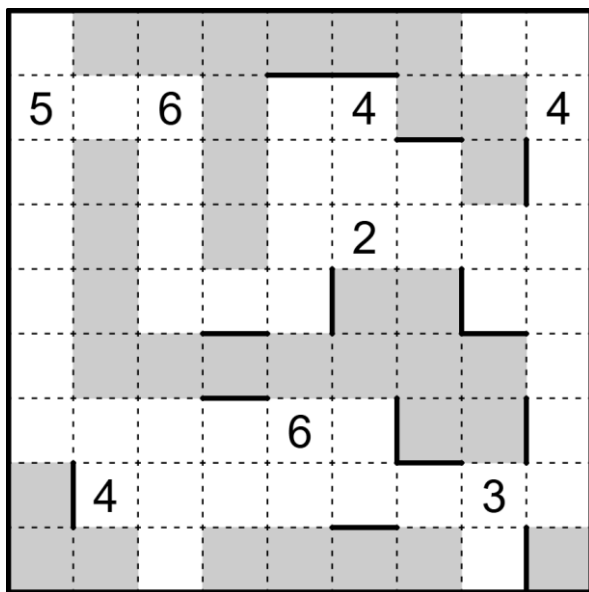
Power Grid

Draw a non-intersecting, non-branching loop that travels orthogonally through the cell centers and visits every dot. A given number indicates the total count of white cells (not including numbers or loop segments) visible in its horizontal or vertical line of sight.



Seam Walk

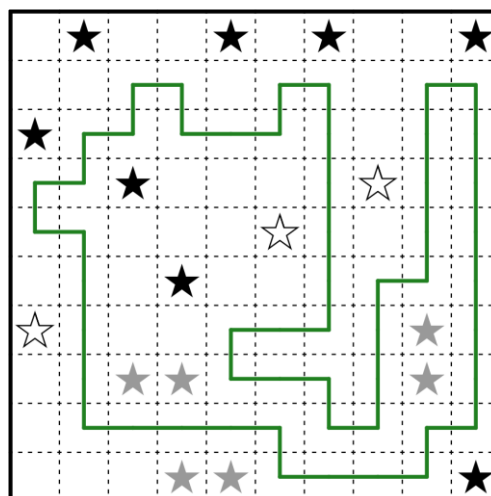
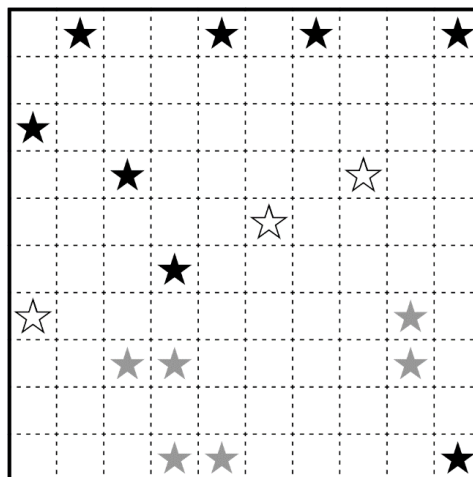
Draw a non-intersecting, non-branching loop that travels orthogonally through the cell centers. A given number indicates the total count of cells that make up the continuous white section of the loop that the number is on. The loop must cross every given bold border.



3 Body Problem

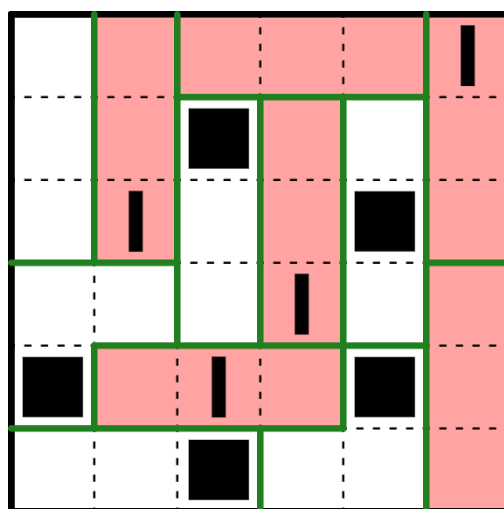
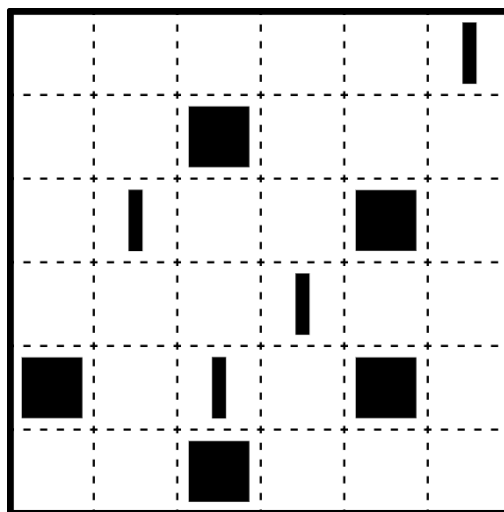
Draw a non-intersecting, non-branching loop that travels orthogonally through the cell centers, and visits at least one cell around (up to eight adjacent cells) every star and at least one cell around (up to ten adjacent cells) every 2-star system. The loop cannot visit cells with stars. The loop's behavior around each type of star is described next:

1. Black star: Must turn 90 degrees in every visited cell.
2. White star: Must pass straight through every visited cell
3. Grey (two-star system indicated by adjacent placement): Around cells adjacent to both stars (if visited), the behavior must be consistent; other than that, no restrictions.



Beam & Bracket

Divide the grid into Trominoes – 3-cell blocks, without overlapping, and each belonging to one of two sets – flexible and rigid. The rigid set only consists of one type of tromino – the I tromino. Flexible set includes both L and I trominoes. There cannot be 2x2 blocks with all cells taken by the same set – every 2x2 block must include both rigid and flexible blocks. In the end, all blocks of the same set must be connected orthogonally. Given black squares represent flexible blocks and black bars represent rigid blocks. Blocks can be rotated and reflected. Each block can contain any number of same symbols, including none.



Mortar

Shade some cells to such that every mass of shaded cells is diagonally adjacent to one or more other masses. **Every unshaded block must touch one or more vertices where two shaded masses are diagonally adjacent.** A given number indicates the sum of sizes of all shaded cell masses that the clued unshaded region is adjacent to. Every unshaded block contains exactly one clue number.

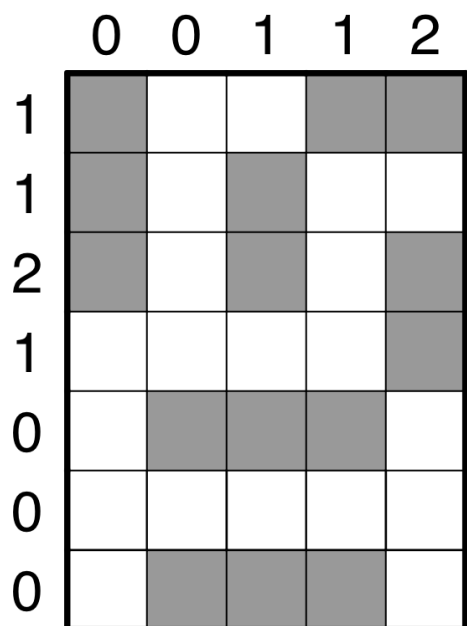
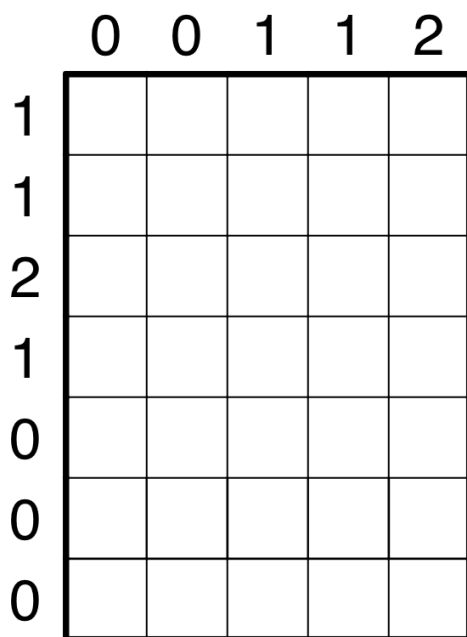
		5			
3		9			11
				8	
	3		9		

		5			
3		9			11
				8	
	3		9		

Scope for variations: Play with shape restrictions for both shaded and unshaded blocks (rectangular, irregular, and so on)

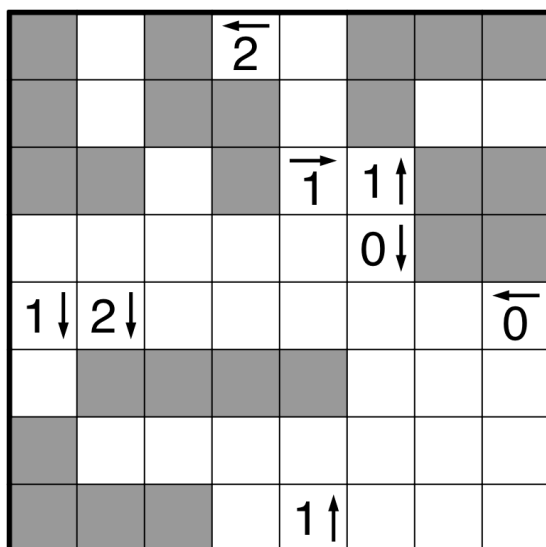
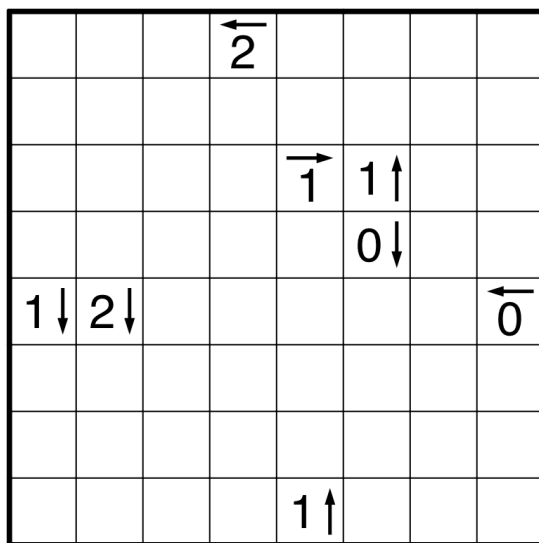
Airspace Control

Shade dominoes and trominoes. No 2x5 or 2x4 rectangle may bound both a domino and a tromino in their entirety, even if another figure partially occupies it. A number on the left and top of the grid indicates how many dominoes, even partial, are in that row or column. Unshaded cells must form a single connected network, and may not entirely fill any 2x2 areas.



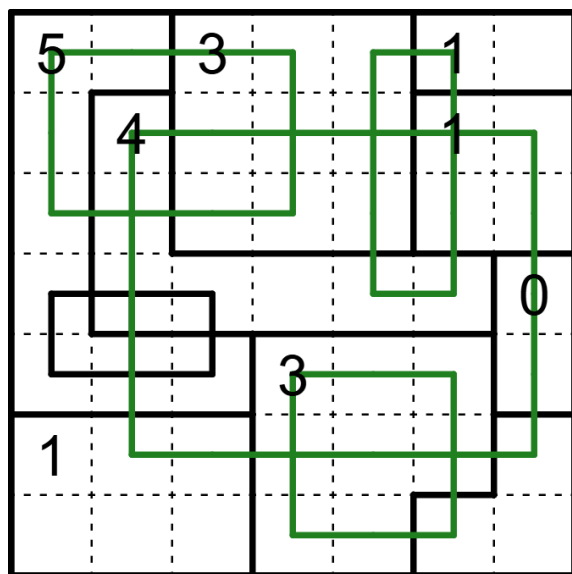
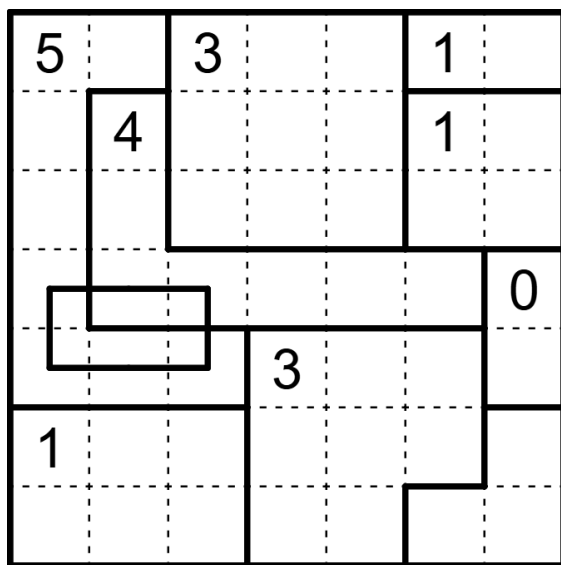
Tetro Duo

Place pairs of tetrominoes (blocks of four cells) into the grid such that each pair is comprised of tetrominoes of different shapes. Tetrominoes within each pair are diagonally adjacent, but those from different pairs cannot be adjacent. Each pair must be unique (if I and T make a pair, they cannot repeat in another pair). A given number indicates the count of tetrominoes in the direction of the arrow.



Frame Fuse

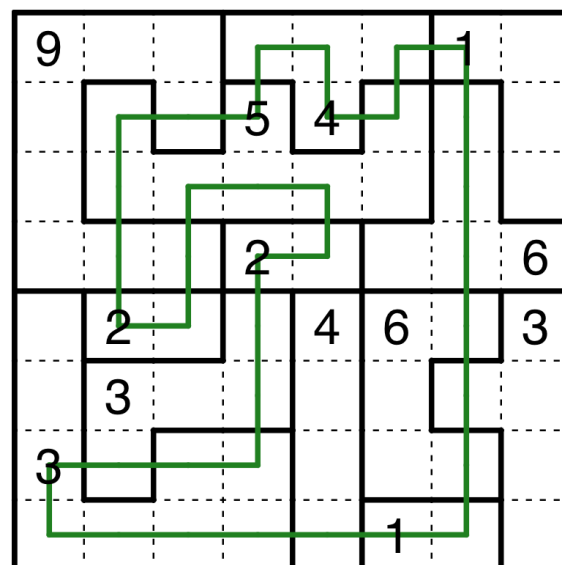
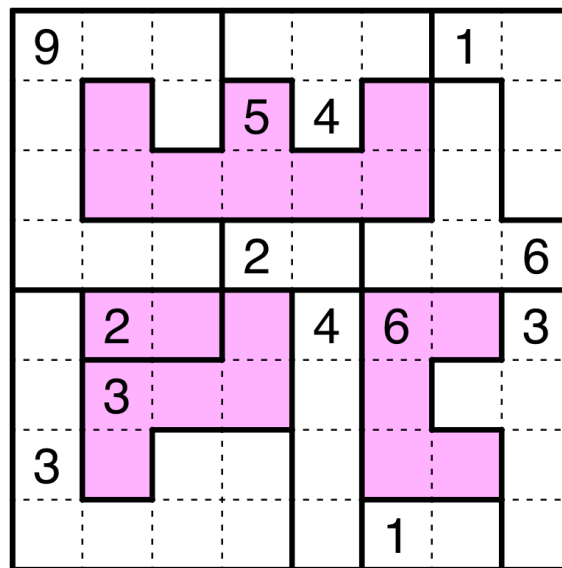
Draw closed, orthogonal loops that form perfect rectangles. Every rectangle must intersect at least one other rectangle. Lines cannot turn at intersections or otherwise overlap. A number in a region represents how many corners of the rectangles are located within that region. No two rectangles can have the same dimensions.



Turn Signal

Draw a non-intersecting loop that travels through the centers of the cells. If a number is visited, it indicates the count of turns made by the loop in that region. If a number is not visited, the loop passes straight through the region on every visit. Each region must contain at least one section of the loop.

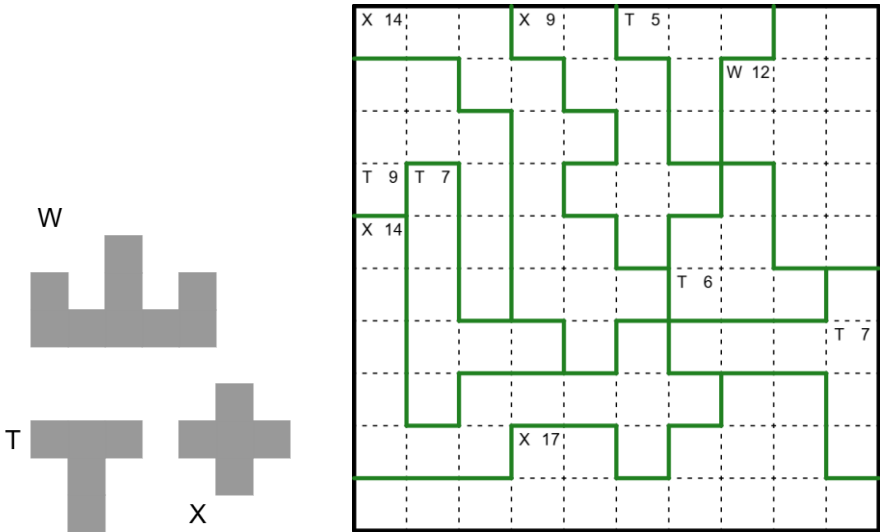
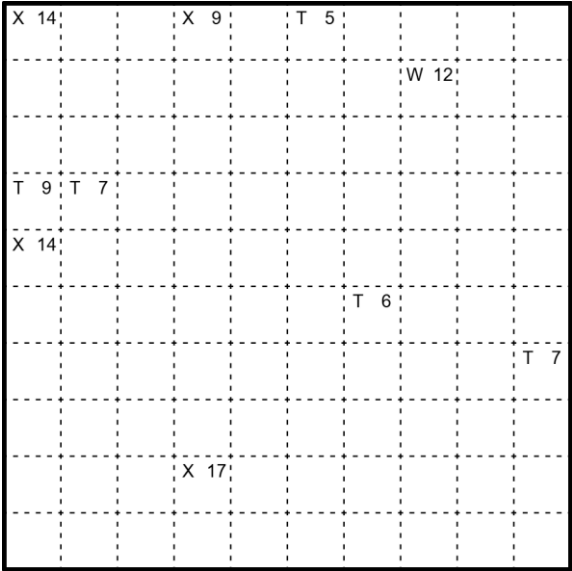
Shading is for aesthetics.



Kurukshetra

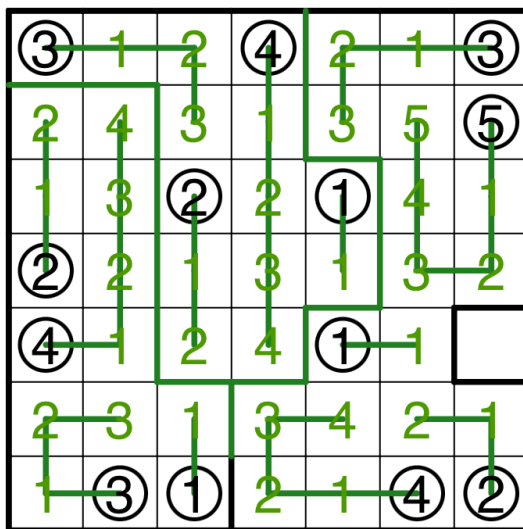
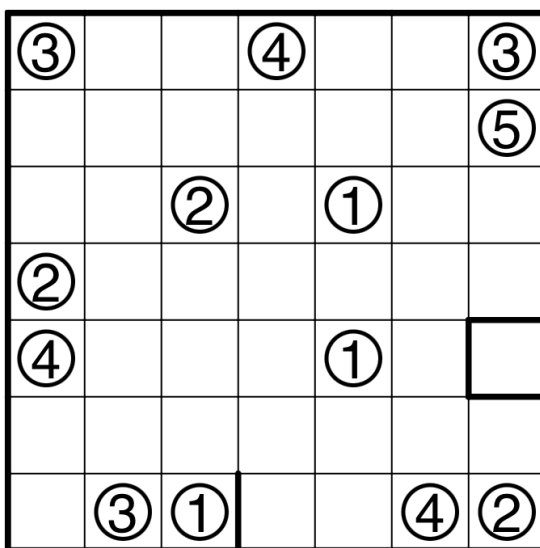
Divide the grid along the gridlines such that each resulting region contains exactly one clue. A letter represents a weapon according to the given mapping. Each region must be able to enclose the corresponding weapon at least once, independently, with rotations and reflections allowed. A number indicates the number of cells in the region.

In this example, the weapons used are the Trishul (W), the Ashok chakra (X), and the dagger (T).



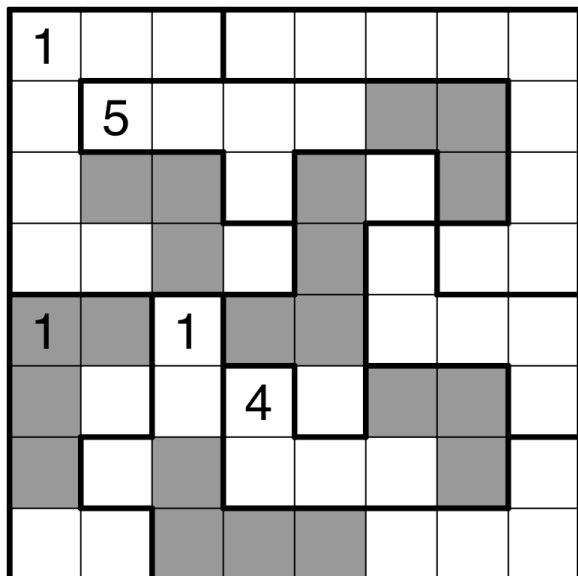
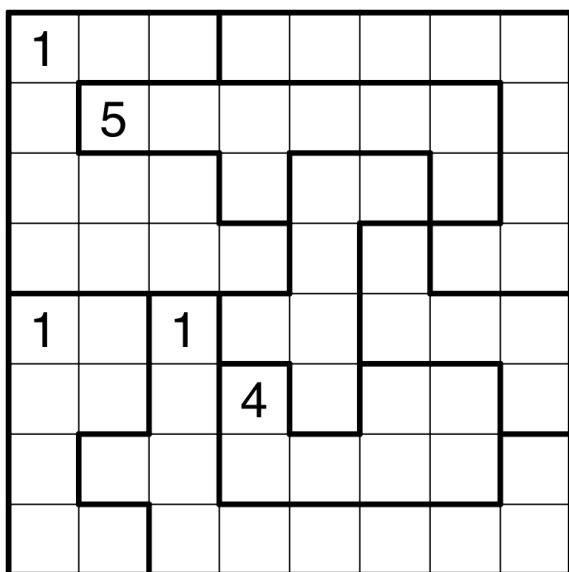
Number nest

Fill each empty cell with a number from 1 to 9. Numbers must be written consecutively starting from 1, in a cell orthogonally adjacent to a circle, and moving orthogonally through "N" unfilled adjacent cells, where N is the number in the circle. No two equal numbers can be orthogonally adjacent anywhere in the grid. Then divide the grid along gridlines into regions such that each region contains at least two given circles and all circles contain different and consecutive numbers. Two circles that are in adjacent cells must belong to the same region.



Fault Lines

Shade some cells. Every contiguous shade block must be non-rectangular and must not cross region borders. Shaded blocks cannot touch each other orthogonally, but all shaded blocks must be connected diagonally. All unshaded cells across the grid must be connected to each other orthogonally. The number in a region indicates the area of the smallest unshaded block in that region; if there are multiple blocks, the other blocks must be larger.



Adder

Shade some cells to form a snake-like loop – 1-cell wide object that does not touch or fall back upon itself, even diagonally. Fill all the remaining cells with numbers 1-6; two equal numbers cannot be orthogonally adjacent. A number outside the grid indicates the sum of all numbers placed in the corresponding row or column. Some numbers inside may be already given.

	3	4		19		12	
8						6	
			1				
12				5			
7							
15				5			
16				6			5
5							

	3	4		19		12	
8						6	2
		2	1	2			
12				5	1	6	
7	3	1		1	2		
15				5	6		4
16		1	4	6			5
5						4	1

Singularity

Draw a continuous closed loop along the grid lines. The loop may not cross itself or branch. Shade some cells. All shaded cells must be located inside the loop and must be orthogonally connected to form a single contiguous block. All unshaded cells (both inside and outside the loop) must be orthogonally connected too. There cannot be a 2x2 area of shaded cells anywhere in the grid. Same must be true for unshaded cells.

1			2	
3		2	1	
	2	2		
	3		3	3
		1		

1			2	
3		2	1	
	2	2		
	3		3	3
		1		

Phantom Sums

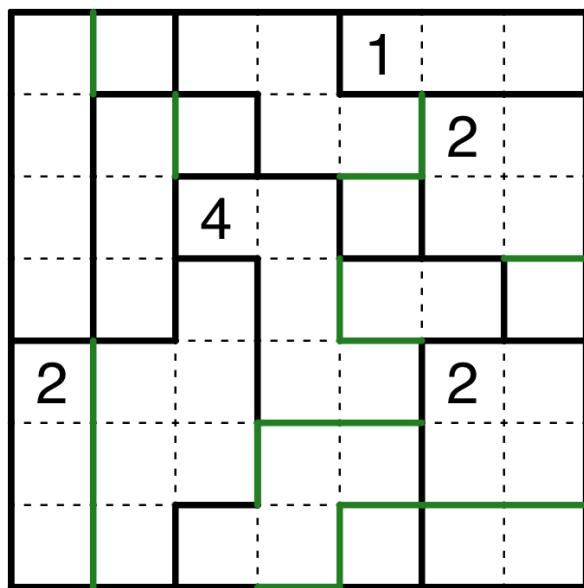
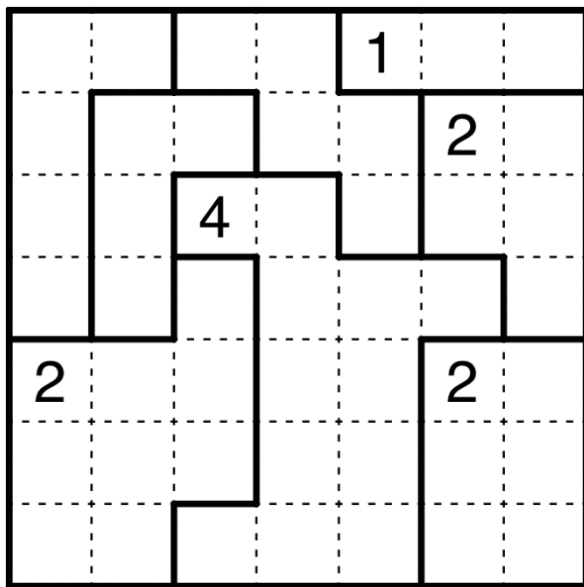
Place a number from 1 to 9 into each empty cell such that each across clue represents the sum of the numbers in the uninterrupted horizontal line to its right, and each down clue represents the sum of the numbers in the uninterrupted vertical line below it. Clues cannot see numbers through other blocked cells. Some uninterrupted lines may contain at most one repeated number, **which, however, only counts once toward the sum.**

	10	15	4	42		7	
28					6		
29					39		
3			14			3	8
	5		8				
10			4				
42							
8			7			5	
		3					
11						2	

	10	15	4	42		7	
28	8	7	4	9	6	2	4
29	2	2	4	3	8	5	7
3	2	1	14	8	6	3	8
	5	5	8	4	4	3	1
10			4				
42	8	7	4	6	9	3	5
8	8		7	7	7	5	5
		3					
11	2	3	1	5	5	2	2

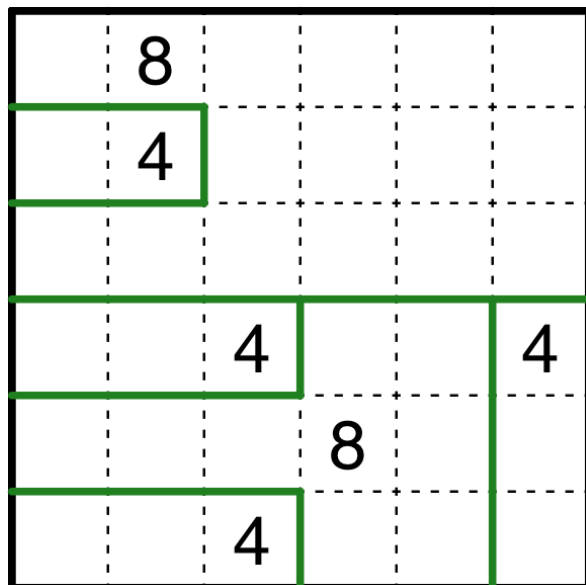
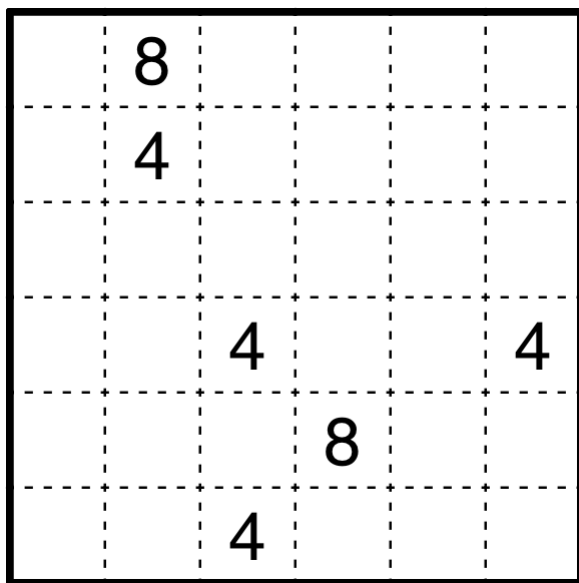
Kaleidoscope

Divide the grid along the grid lines so that each outlined region is divided into a number of distinct, rotationally symmetric polyominoes. No two identical polyominoes may share a grid border. A number in a region indicates the count of polyominoes in that region.



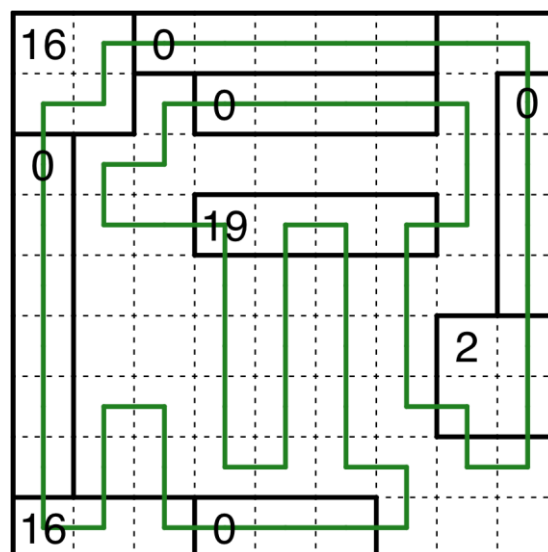
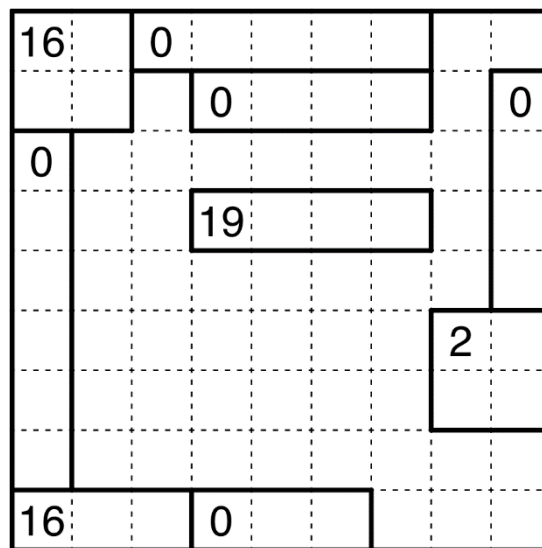
Rind

Partition the grid into orthogonally connected regions. A region is allowed to wind back onto itself diagonally as long as all cells are orthogonally connected. Each region must contain exactly one number. A number in a cell indicates the count of sides/corners of that region. No two orthogonally adjacent regions can have the same number of internal cells. A cell is defined as internal when none of its edges are used by the regional borders or by the grid's border.



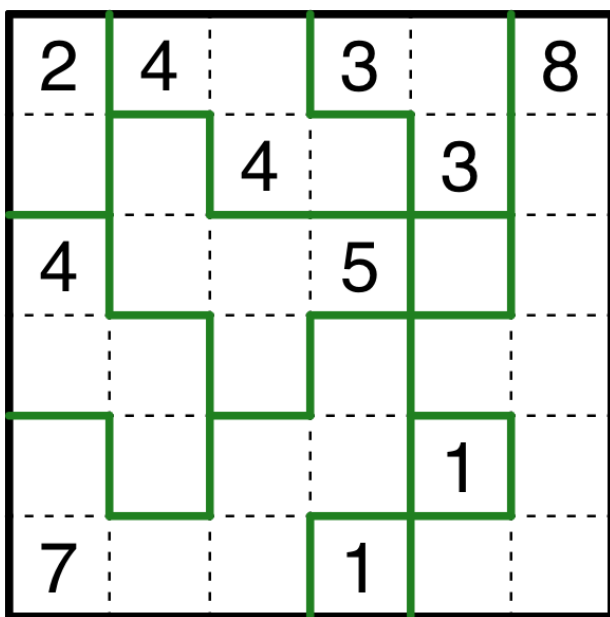
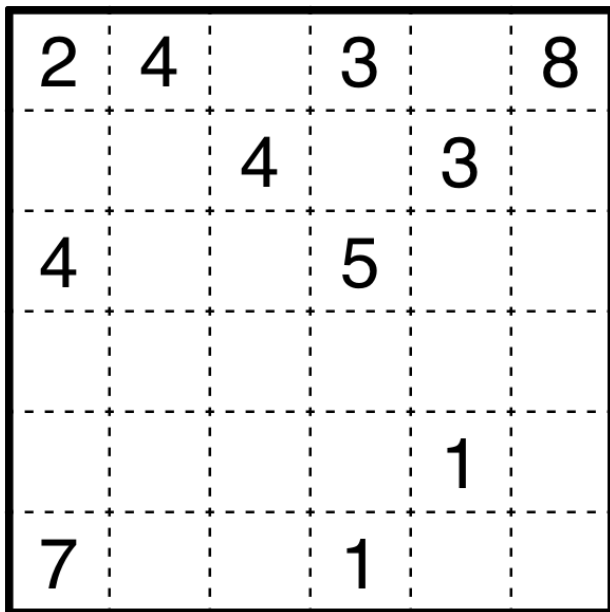
Turnpike

Draw a non-intersecting, non-branching loop that travels orthogonally through the cell centers and visits every outlined region. A given number indicates the total length of those segments that **turn inside** the outlined region containing the number; segments that pass straight through are not counted.



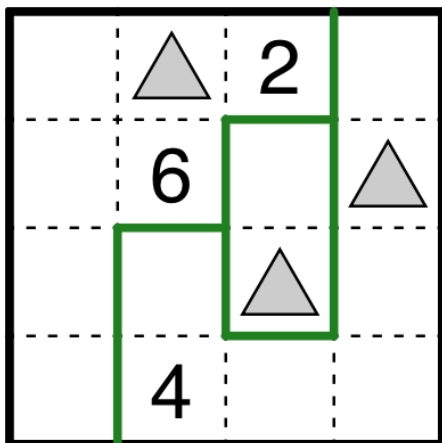
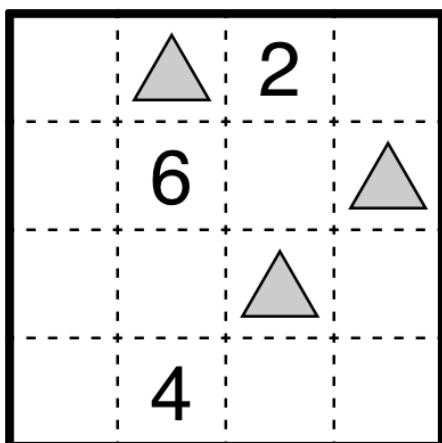
Reflexive Realms

Divide the grid into orthogonally connected regions. A number in a region indicates the area of that region. No two orthogonally adjacent regions can have the same area or contain the same number of 270 degree angles. A region may contain one or more given numbers, or, none.



Summit

Divide the grid into orthogonally connected regions. Each region must contain exactly one triangle (the summit). A cell's distance score is defined as the shortest orthogonal path of that from the summit, traveling only through cells in the same region. A number in a region indicates the sum total of all its orthogonal neighbors' distance scores – only counting the neighbors from other regions.



Twin Silhouettes

Shade some cells; Clue cells must be shaded. A number tells how many other shaded cells in the same outlined region form another block that is congruent to the one containing that number, not counting the cells in the clue cell's block.

1		0			4
				2	
1					
0			1		

1		0			4
				2	
1					
0			1		

Gapwise

Place numbers 1–N in each cell, where N is the cell’s region size. No two orthogonally adjacent cells share a number. A small number in top-left corner of a cell indicates the sum of the absolute differences between that cell and all orthogonal neighbors not in the same region as the clue cell.

		4				2	
			4				2
2	3			5	2		
	7	5					4
	15				22		2
2						12	
			9	7	1	2	
	4		6	4		5	

3	1	⁴ 5	4	1	3	² 4	1
2	3	1	⁴ 2	4	2	5	² 3
² 3	³ 2	4	3	⁵ 1	² 3	4	2
2	⁷ 1	⁵ 2	5	4	2	7	⁴ 6
1	¹⁵ 6	1	4	2	²² 9	1	² 3
² 4	2	4	5	1	5	¹² 7	1
5	3	6	⁹ 1	⁷ 8	¹ 3	² 4	3
3	⁴ 7	8	⁶ 2	⁴ 6	2	5	4

Area Alibi

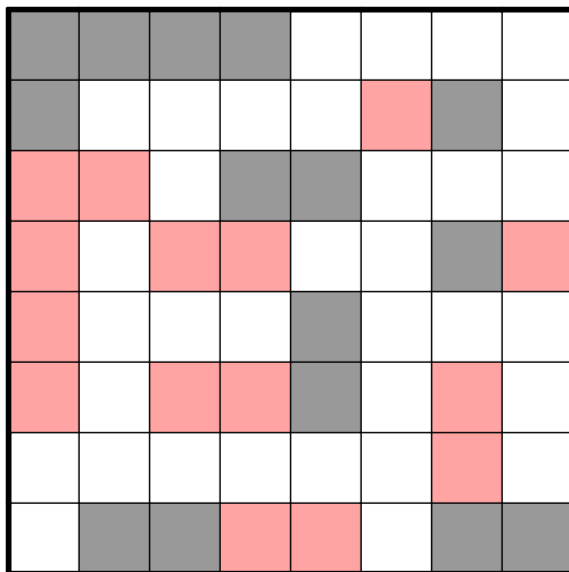
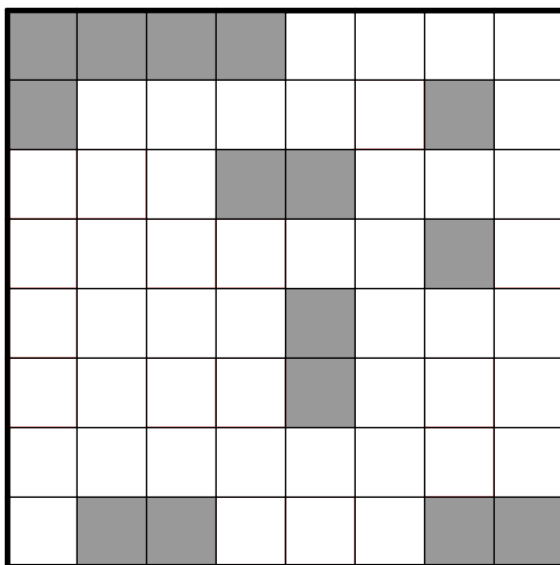
Divide the grid into rectangles, each containing exactly one number. If a region is a square, its area equals the number. If it is a non-square rectangle, its area differs from the number by exactly one.

3	5				4	2		
								5
			4					
	4		4				7	
				7				4
						8		
			7	2				7
7								
3				3	4	5		2

3	5				4	2		
								5
			4					
	4		4				7	
				7				4
						8		
		7	2					7
7								
3				3	4	5		2

Double Take

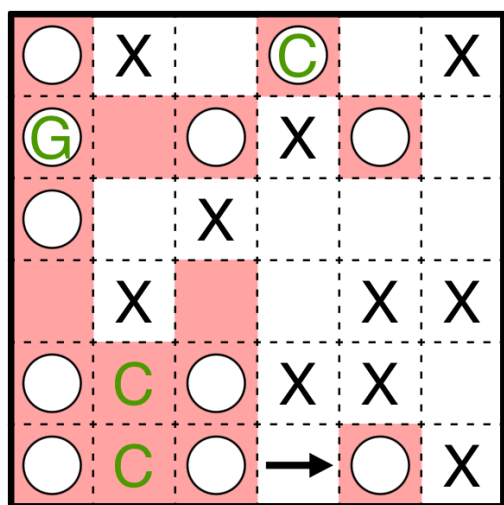
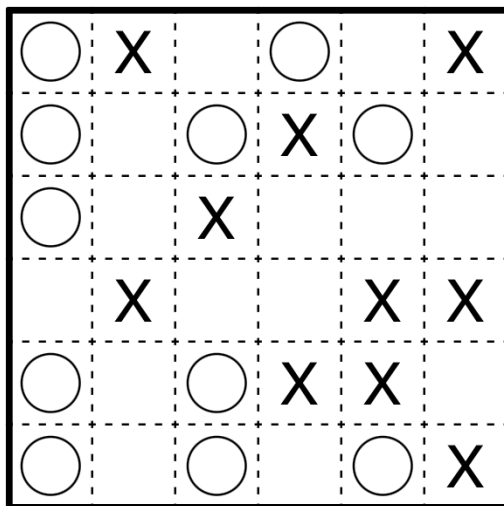
Each connected group of shaded cells must be paired with a congruent copy of shaded cells placed orthogonally adjacent to it, forming a single connected region of exactly double the original area. All unshaded cells must form one connected network, and no 2×2 area may be fully shaded.



अस्त्र प्रहार

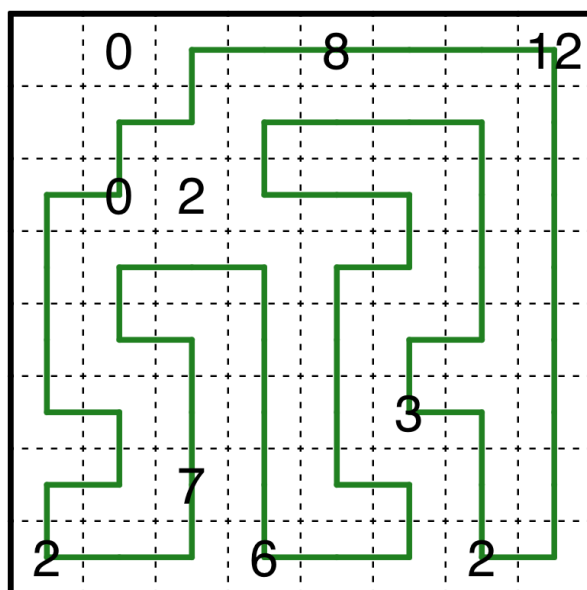
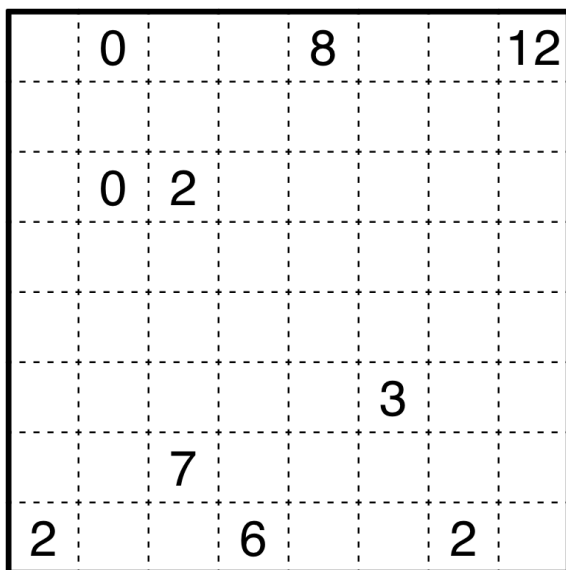
Place all given weapons (use letters G for Gada, C for Chakra, and Arrow symbol for Katar) into the grid. The weapon bank is provided. No two weapons can be placed in the same cell. Weapons cannot attack cells marked "X" or other weapons, or be placed in cells marked "X". A Gada attacks all its orthogonal neighbors and the cell it is in. A Katar attacks the cell it is in and the first cell in the arrow's direction. A Chakra attacks up to all four of the diagonal neighbors and the cell it is in. All cells marked "O" must be attacked by exactly one weapon each.

Weapon Bank: 1 Gada, 3 Chakras, 1 Katar



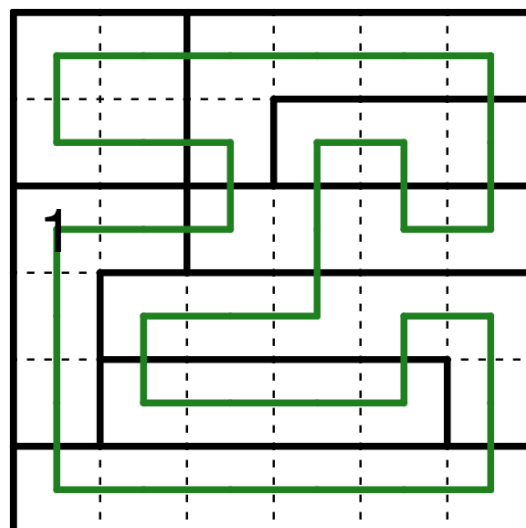
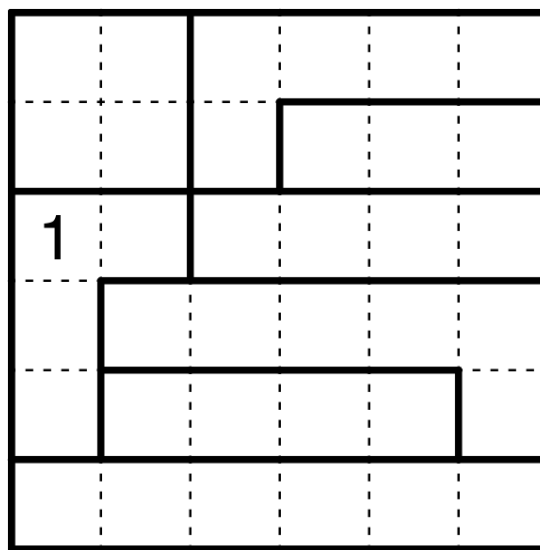
Straight by Side

Draw a single continuous loop that moves horizontally or vertically through cell centers, never crossing or branching itself. Each number represents the sum of the lengths of loop segments that pass straight through its orthogonally adjacent cells.



Portal Pursuit

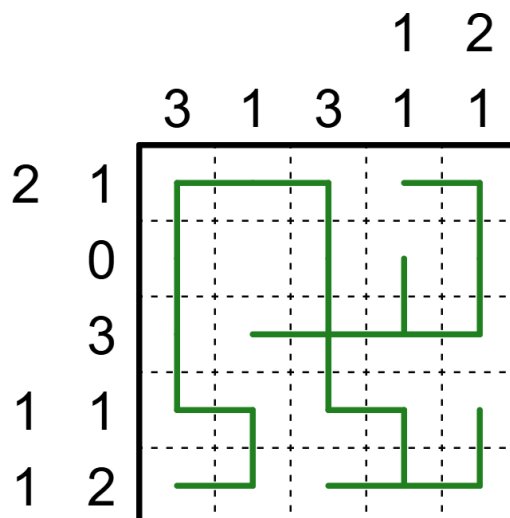
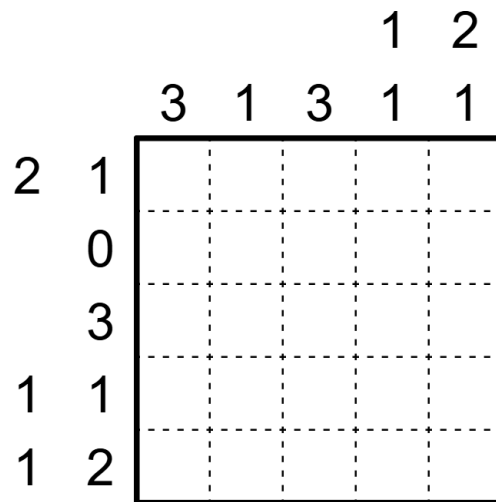
Draw a single, closed, non-intersecting orthogonal loop through the center of every cell. The first and last cells of each continuous segment within a region are its threshold cells. For any region with multiple multi-cell segments, consecutive segments must alternate between "aligned" (threshold cells share a row or column) and "unaligned" (threshold cells share neither). A number indicates the number of visits to that region. Single-cell segments are null visits **and do not advance the alternation sequence**, but count toward their region's total visit count.



Strategies: Single-cell visits serve as leverage for suspending the alternation logic.
1xN rectangles usually are good entry points.

Dysfunctional Loop

Draw orthogonal, non-overlapping line segments connecting the centers of cells to form a single connected network (a pseudo-loop). Numbers outside indicate in the given order, lengths of all segments in that row or column. Lengths are measured cell center to cell center. The number of lines in any given row or column must exactly match the number of givens provided for that side. A question mark, if given, represents any number including 0. Every row and column must contain at least one cell that is an endpoint/dangling line (1 line attached), a branch (3 lines moving out of the cell) or an intersection (4 lines emanating from the cell).



Synapse Pairs

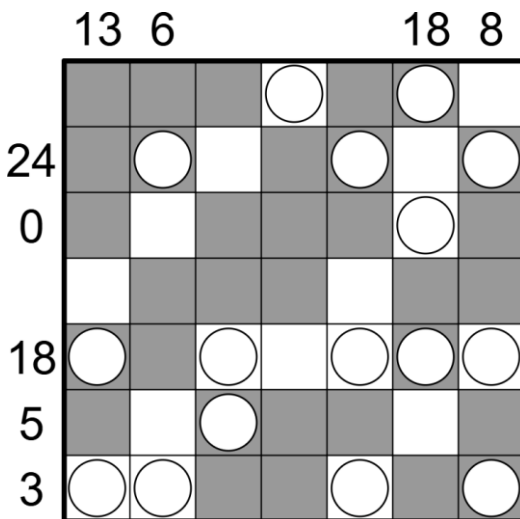
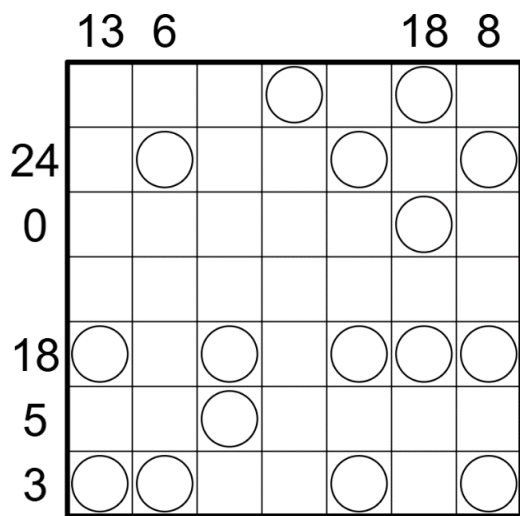
Each outlined area must contain exactly one 1 and one 2. Every number must be orthogonally adjacent to one or more identical numbers (1 next to 1, 2 next to 2) across region borders. All numbers must form a single, unbroken orthogonal chain. No 2x2 square can be entirely filled with numbers.

	1			1	
		1			
	2				
				2	

		2	2	1	
	1	2		1	
	1		2		1
	1	1	2	2	1
2	2			2	
	1	1		2	

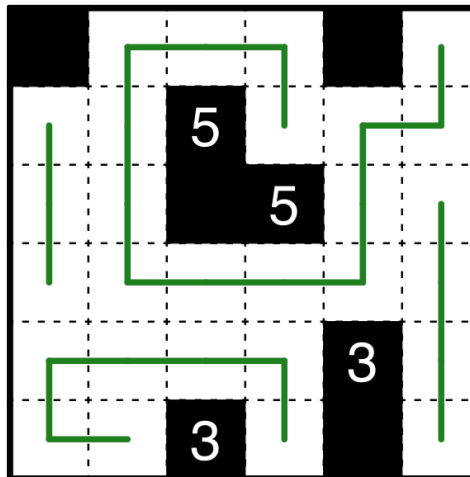
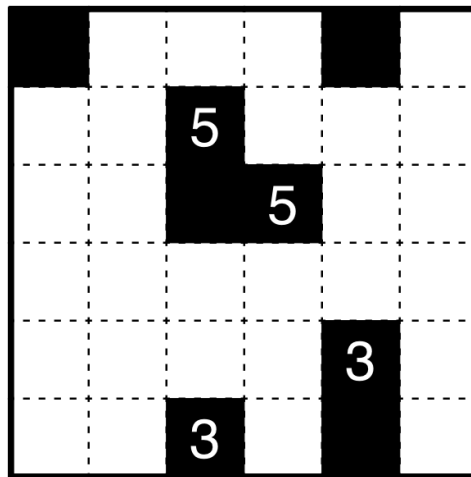
Lichen Spread

Shade cells to create a single network – or ecosystem – where all orthogonally connected groups are linked to one another diagonally. Every shaded group must consist of at least three cells and **cannot form a rectangle**. A number outside the grid indicates the total size of all shaded groups that occupy a circled cell in that row or column. If a single shaded group occupies two different circles in the same row/column, its size is added to the sum twice.



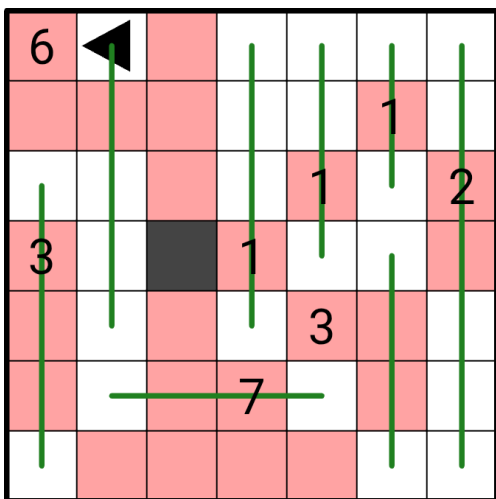
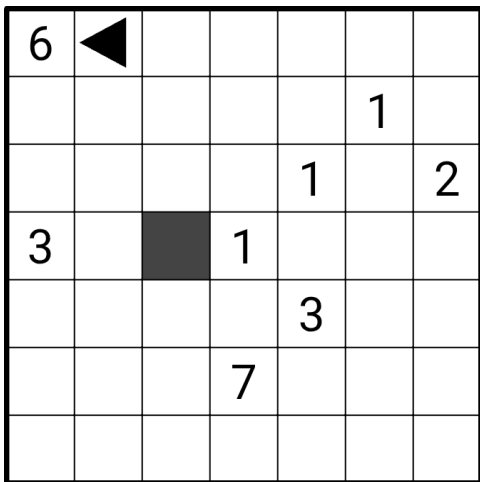
Strands

Draw orthogonal, non-intersecting lines that together visit all non-clue cells. Lines cannot branch or overlap. No two endpoints – even from different lines - can be orthogonally adjacent. A number represents the sum of lengths of only those segments that pass straight through its orthogonal neighbours.



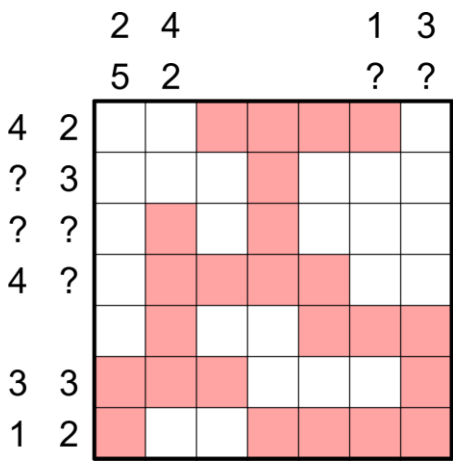
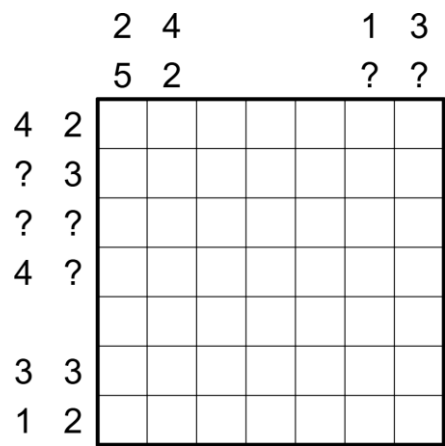
Ghatak Baan

Shade cells to form orthogonally connected groups, each containing exactly one number equal to its area. Draw straight non-intersecting arrows that together cover all white cells. Each arrow runs straight through a different shaded group. Arrows may not turn, overlap, or start/end inside shaded cells. Given arrow symbols mark line endpoints (direction unspecified). Black cells are not part of the grid.



First Tide

Shade cells to form an orthogonally connected group. No 2x2 square may be fully shaded.
Numbers outside the grid tell the lengths of **the first shaded and first unshaded cell block** in that row/column.



Courtyard

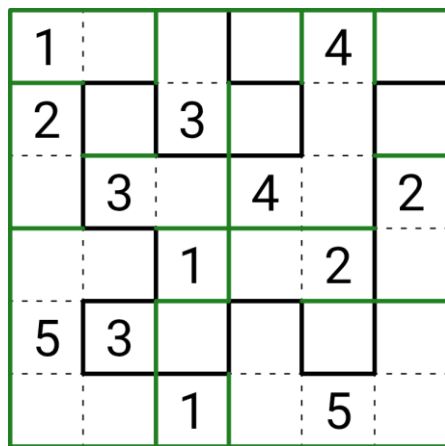
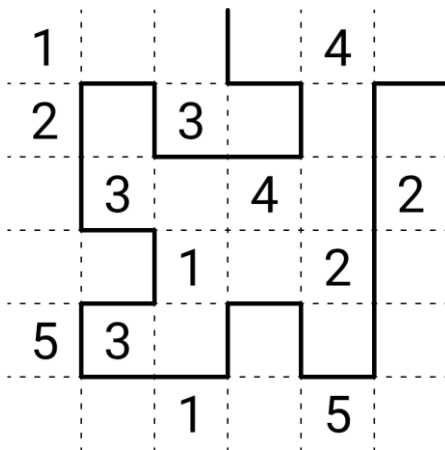
Place digits in white cells to form one or more closed, non-overlapping, rectangular rings. Rings cannot branch, cross, or touch themselves orthogonally. All cells on a single ring must contain the same digit. **Each digit value may only be used by one loop in the grid.** Cells from different loops may be orthogonally adjacent, but no 2×2 area of the grid may be completely filled with digits. Each number given in a clue cell equals the sum of all digits placed in cells sharing its row or column.

								2	
	4					10			
		10							
				10					

								2	
1	1	1	1	1	1	1	1	1	1
1	4					10			1
1			3	3	3	3	3		1
1		10	3				3		1
1			3	3	3	3	3		1
1				10					1
1									1
1	1	1	1	1	1	1	1	1	1

बँटवारा

Partition the grid into orthogonally connected, non-overlapping regions by drawing additional edges along grid lines. Each number equals the exact quantity of pre-drawn (given) edges that form part of its region's perimeter. Player-drawn edges and outer grid borders do not contribute to the count. A region may contain zero, one, or multiple numbers.



Strata

Fill the grid with A, B, C.

A: Single orthogonal group. No 2x2 A-blocks.

B: Ortho-adjacent to ≥ 1 A. Never ortho-adjacent to C. All B's form one diagonal group.

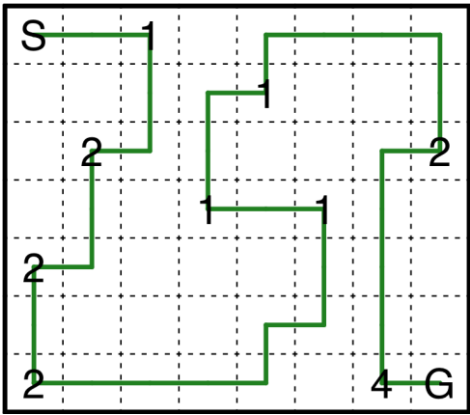
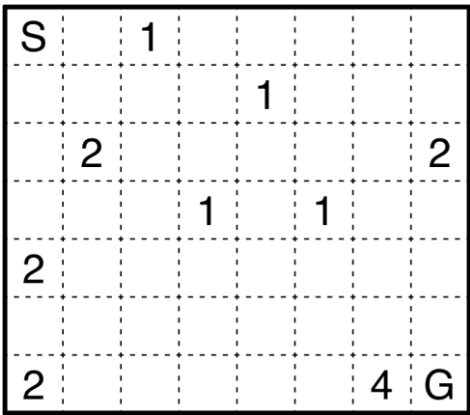
C: Rectangles 1xN where N ≥ 2 cells. C's from separate rectangles never touch orthogonally.

		A			C
C	A				A
A				A	B
		B			
A					A

C	A	A	A	C	C
C	A	B	A	A	A
A	A	A	B	A	B
C	A	B	A	B	A
C	A	A	A	A	A
A	A	C	C	C	A

Rapids

Draw a single, non-intersecting path from S to G that moves orthogonally through cell centers, turning in every circle. The path may never enter a cell twice and **never make a U-turn** (successively visit all four cells of a 2x2 square). A number in a circle is the ratio between the two segments that enter and exit that cell (one length must be perfectly divisible by the other).



Demographics

Fill every cell with a number from 1 to 4. Every number must share an edge with at least one other cell containing the same value. For each cell, there must be at most two distinct values, excluding its own, in the (up to) eight cells surrounding it. Four identical numbers may not form a 2×2 square.

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

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

Seasonal Scrabble

Enter the given words, across or down, so that all letters placed in the grid are orthogonally connected. Apart from the given words, there should be no sequences of two or more letters placed consecutively in any row or column. The two grids must together use all of the given words exactly once. Letters outside the grid represent the first letter seen in that row or column.

S

E

L

U

CAVE CELL CROSS EDGE LINE
PUZZLE SHADE SUDOKU TOUCH

S

E

		E			P
S	U	D	O	K	U
H		G			Z
A		E			Z
D					L
E		L	I	N	E

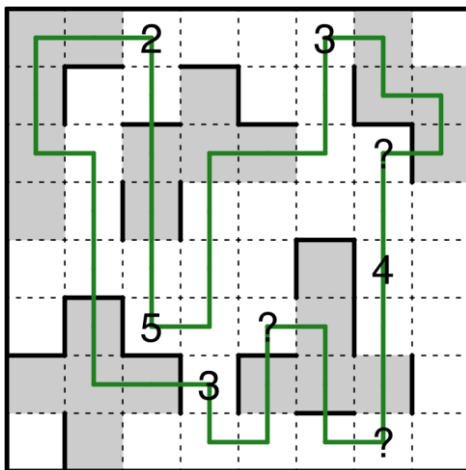
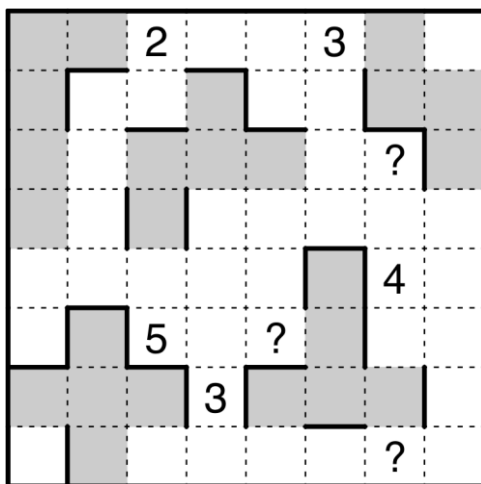
	C	E	L	L	
	R				
T	O	U	C	H	
	S		A		
	S		V		
			E		

L

U

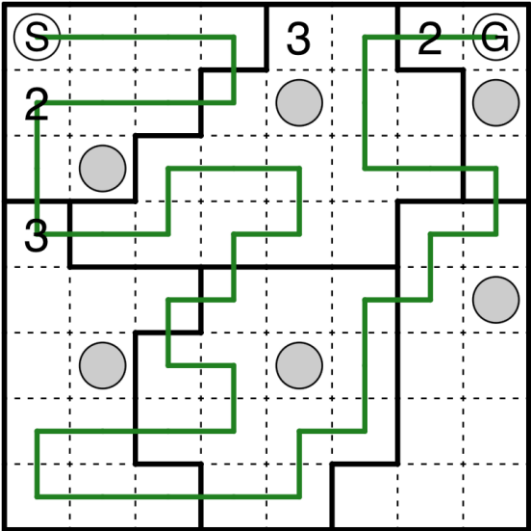
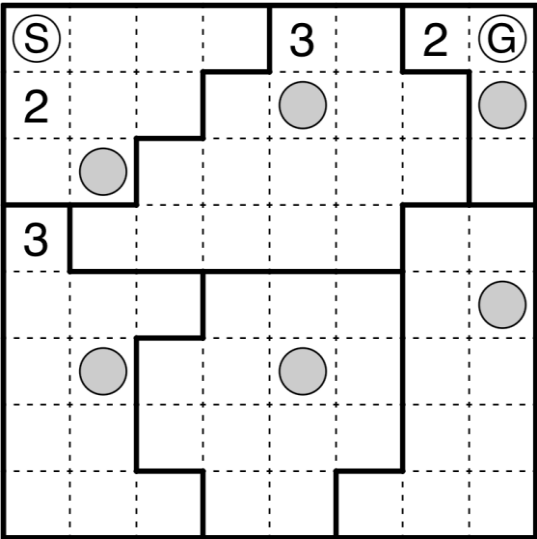
Balance Walk

Draw a single, non-intersecting orthogonal loop through the cells. It must visit every number. A number indicates the length of the continuous unshaded section of the loop that the number is on. If the loop crosses a bold-marked edge, the continuous shaded and unshaded sections of the loop demarcated by the edge must have exactly the same length.



Slingshot

Construct a single, non-intersecting, orthogonal path from S to G; the path cannot pass through planets (grey circles). Each time the path enters a bold outlined region, it must pass through more cells in the 8-cell neighbourhood of the region's planet before exiting, than it did in the immediately preceding visit to that region.

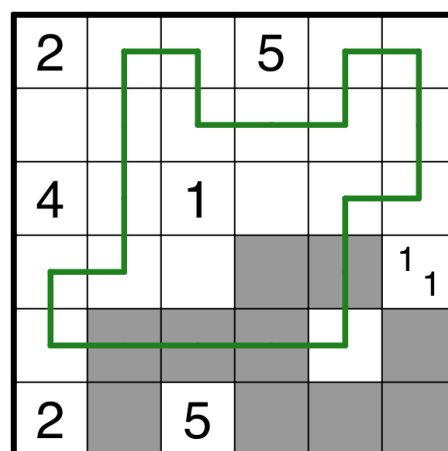
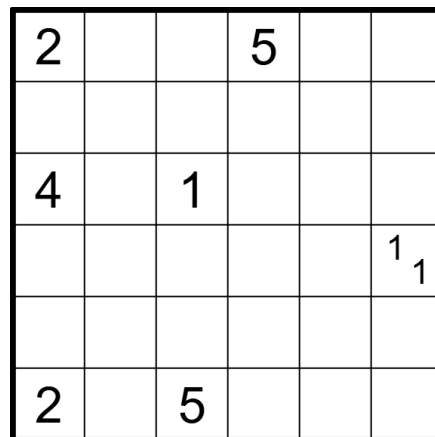


Schrodinger's Loop

Draw a single, non-intersecting orthogonal loop through empty cells. The shade some non-clue cells so that no four shaded cells form a 2x2 square. All shaded cells must be orthogonally connected in a single group. If the loop uses a shaded cell, it must pass straight through the cell without turning. A clue either represents a shaded cell block or a loop segment/s.

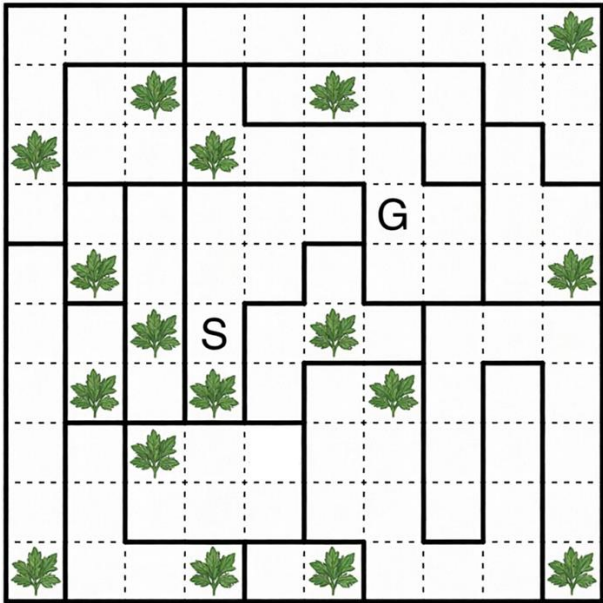
Shaded cell clue: Each number in the clue represents the size of each shaded cell block in the (up to) eight cells surrounding the clue.

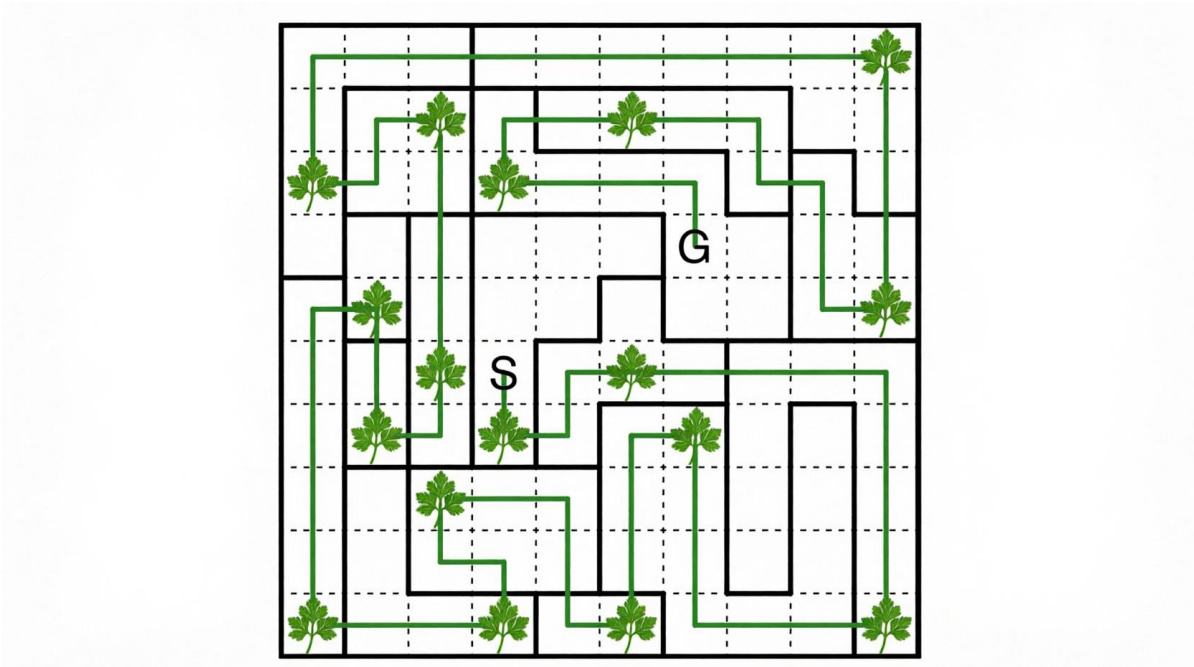
Loop clue: A clue represents the numbers of consecutive cells occupied by the loop each time it enters the (up to) eight cells surrounding the clue.



Elixir

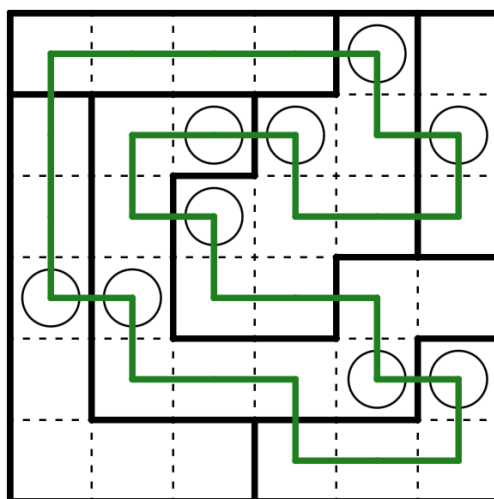
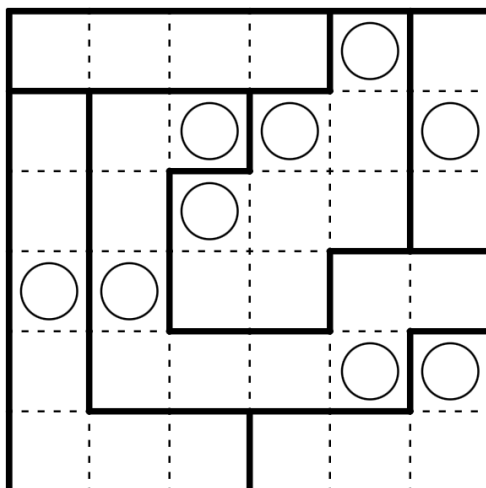
Mahavir assign himself an impossible job – fetch a unique collection of ingredients for the Sanjeevani booti. Start in the cell marked "S", pick each herb following an orthogonal path, and reach the cell marked "G". The path cannot enter any outlined region more than once.





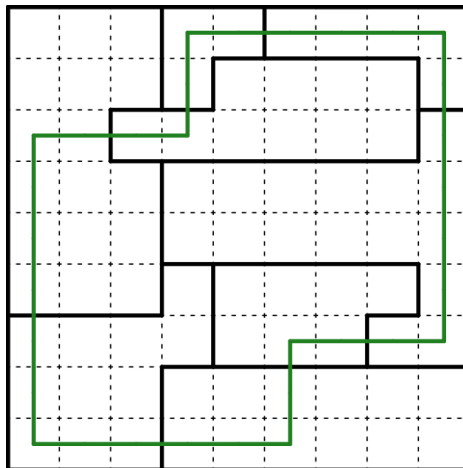
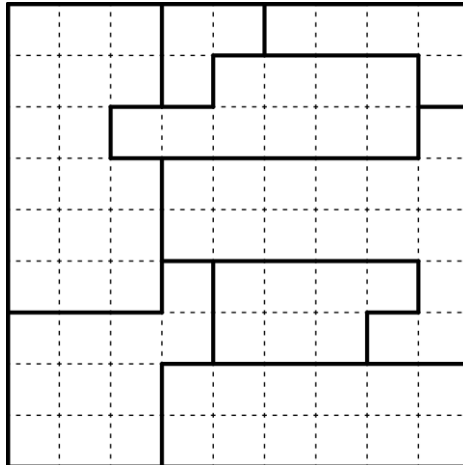
Lossy Loop

Construct a single, non-intersecting, orthogonal loop that passes through every outlined region. Each region must be visited exactly once, unless it contains multiple circles. A region with N circles ($N > 1$) must be visited exactly N times, with each visit passing through exactly one circle. When the loop passes through a circle inside a bold-outlined region, the two path segments within that region (from the entry border to the circle, and from the circle to the exit border) must have unequal lengths (measured in grid cells).



Twin currents

Draw a single, non-intersecting loop that moves horizontally or vertically through cell centers. The loop must pass through every outlined region exactly once. Inside each region, the loop forms exactly two straight segments: one spanning an odd number of cells and the other an even number (exactly one turn per region).



Allows for some interesting deductions along rows and columns to determine pivot points and region pairs based on the single pass constraint

Physarum

Shade cells so that a number tells the sum of two quantities: the number of shaded cells in its 8-cell neighbourhood, and the number of cells in its own shaded block. All shaded blocks must be diagonally connected – no isolated blocks.

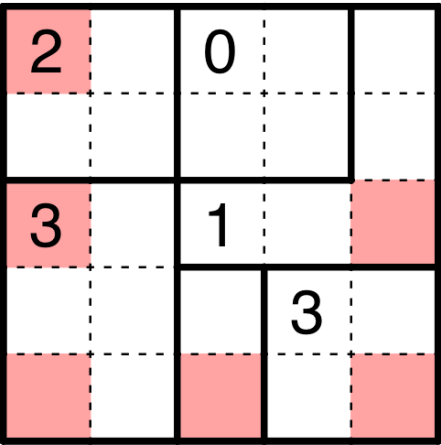
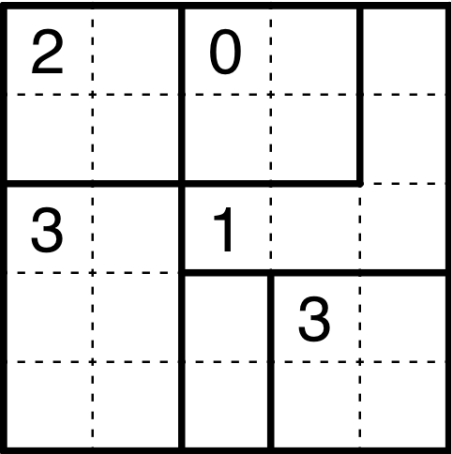
6		5				2
			6		8	
8		4				
	8				9	
				7		
	7		6			5
6		7			6	

6		5				2
			6		8	
8		4				
	8				9	
				7		
	7		6			5
6		7			6	

Intertwining global and local constraints lend a unique flavour to the deductions while leaving enough room for variations.

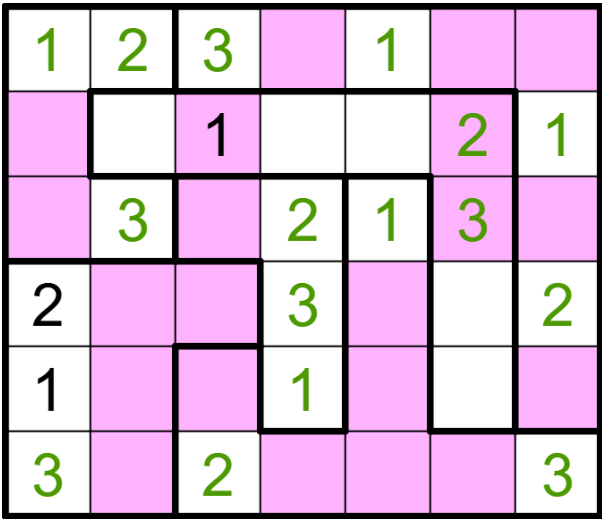
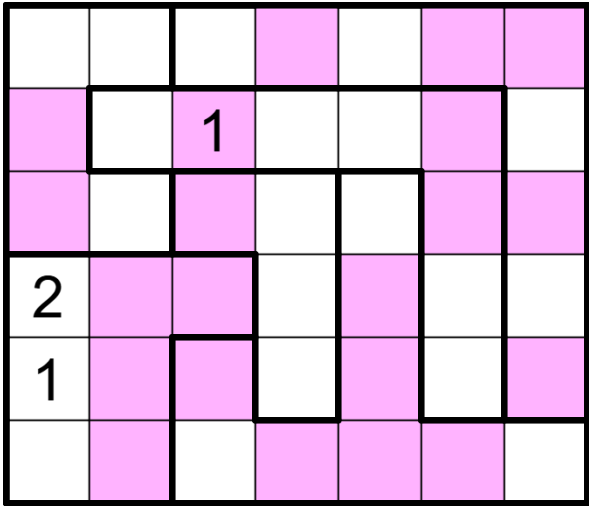
Shoreline

Shade single cells (water tiles) so that each region's number tells how many water tiles {shaded cells} in the entire grid touch the land (one or more unshaded cells) within that region. All unshaded cells across the grid must be orthogonally connected. No two shaded cells may be orthogonally adjacent.



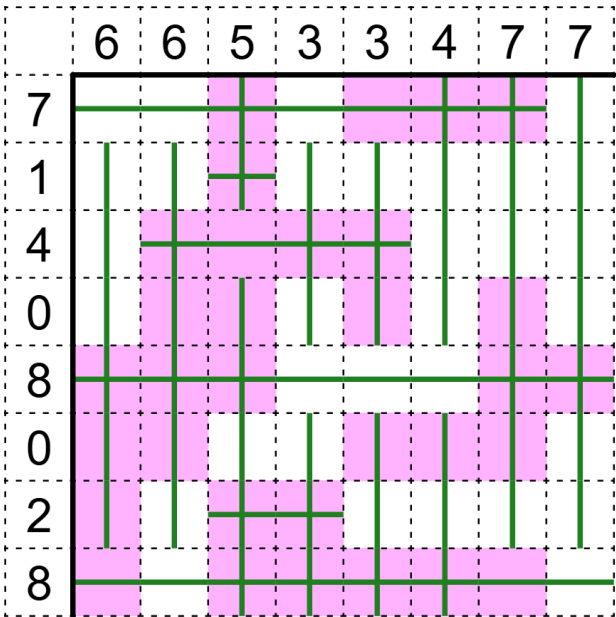
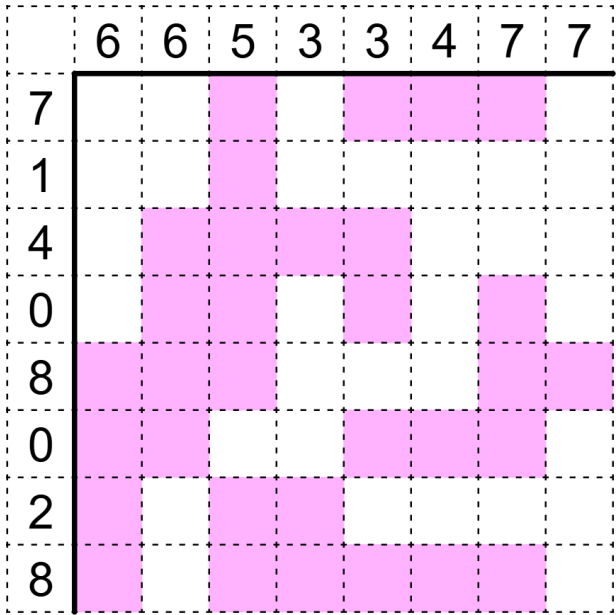
Fill-a-pick

In each outlined region, pick a set of cells – all of the same color – and fill those cells with digits 1,2,3,1,2,3,.. and so on, in that order. Same digits cannot be orthogonally or diagonally adjacent, and must be spaced by at least that many cells when they are in the same horizontal or vertical line. There can be other digits between a pair of same digits.



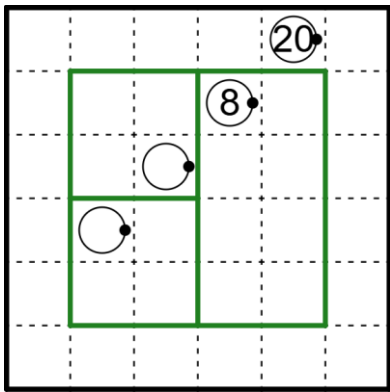
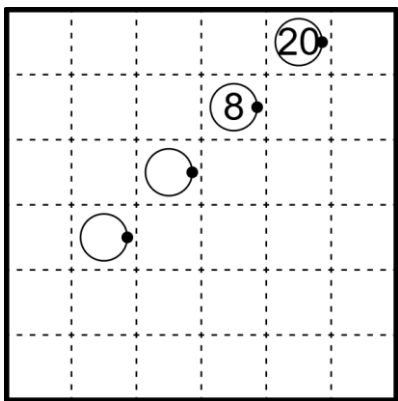
Hammerbeam

Draw a vertical or a horizontal line, edge-to-edge, in each cell. Every line must intersect at least one other line to form a single connected network; loops are allowed. **Line segments cannot intersect on white cells.** A number outside the grid represents the length of the longest uninterrupted segment in that row/column; there could be multiple such segments.



Carom rooms

Draw walls on grid lines to split the board into orthogonal regions so that every region contains exactly **one** marble. A number represents the area of that region. Within each region, the marble rolls in the direction of the arrow, turns clockwise if it hits a wall, and repeats the steps until it reaches the starting cell facing in the original direction. In other words, every region is a clockwise track.

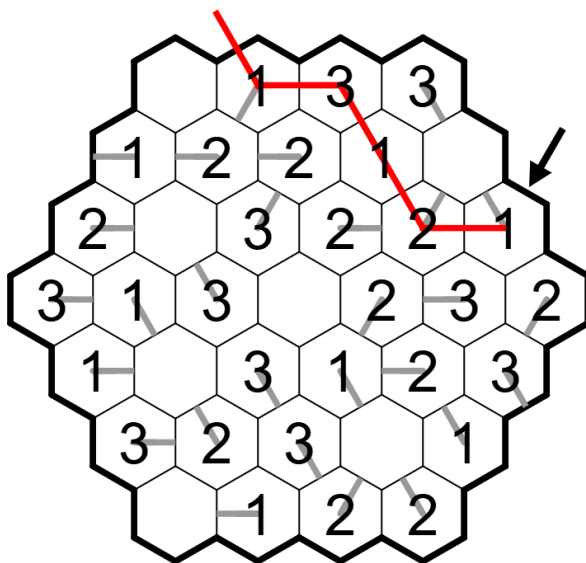
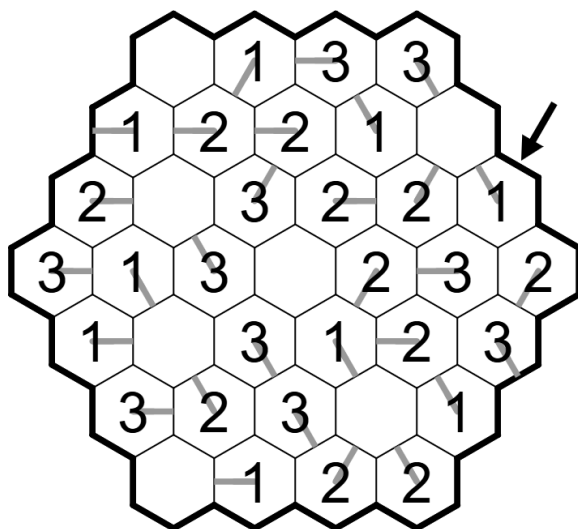


Honey Spinny

Trace a continuous path that enters the hexagonal grid from the marked starting direction, follows the directional arrows step-by-step, and exits the grid. The sum of all numbers collected along the way must exactly match the target value shown outside the grid. You may rotate the arrow in up to three cells. Each chosen cell can be turned exactly once to face any of the six adjacent directions. Use these rotations strategically to connect a valid entry-to-exit path that yields the correct total. Empty cells contain no arrows or numbers. You cannot move into them; attempting to do so immediately invalidates the path.

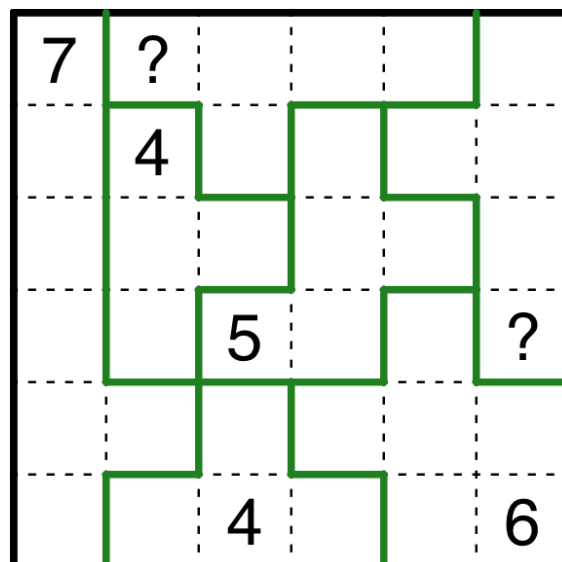
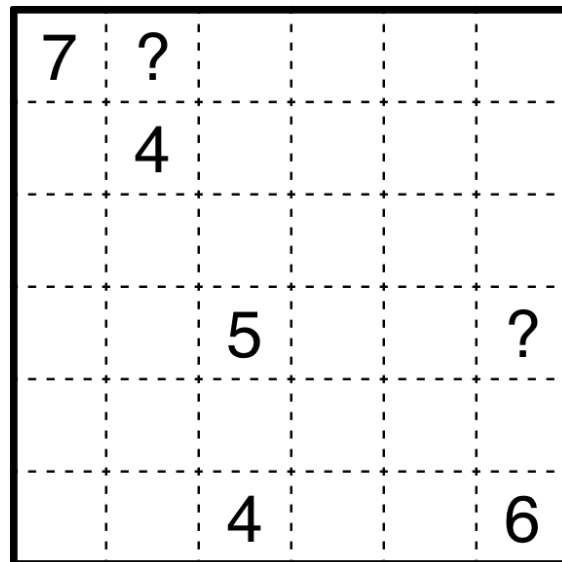
In the example puzzle below, the cells that must be rotated are: first, second and fifth along the path

Target Sum: 8



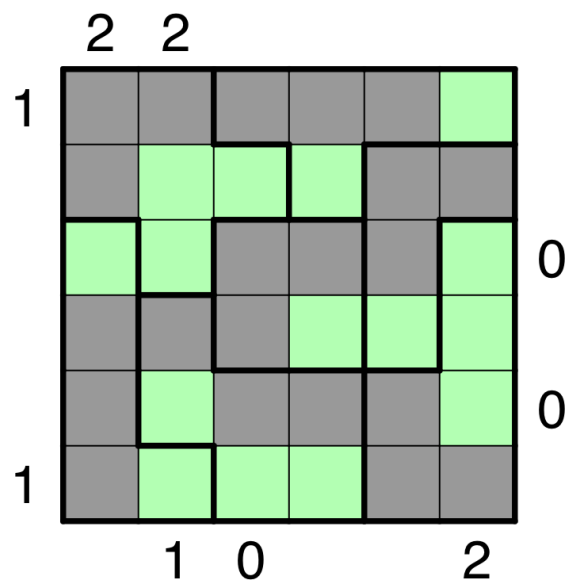
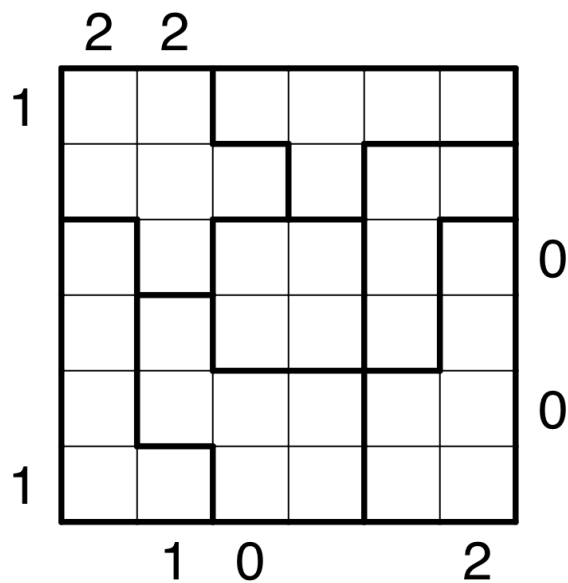
Impasse

Divide the grid into contiguous orthogonal regions. Each region must contain exactly one number; the number indicates the area of the region. Within each region, it must not be possible to thread through every cell exactly once in a single orthogonal path without branching.



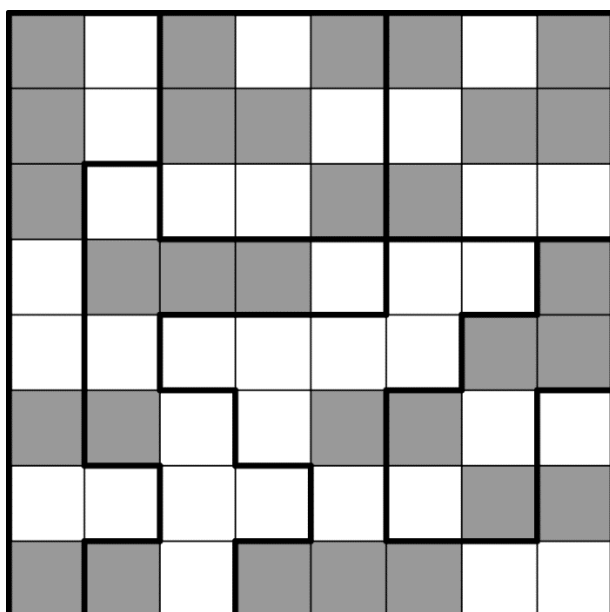
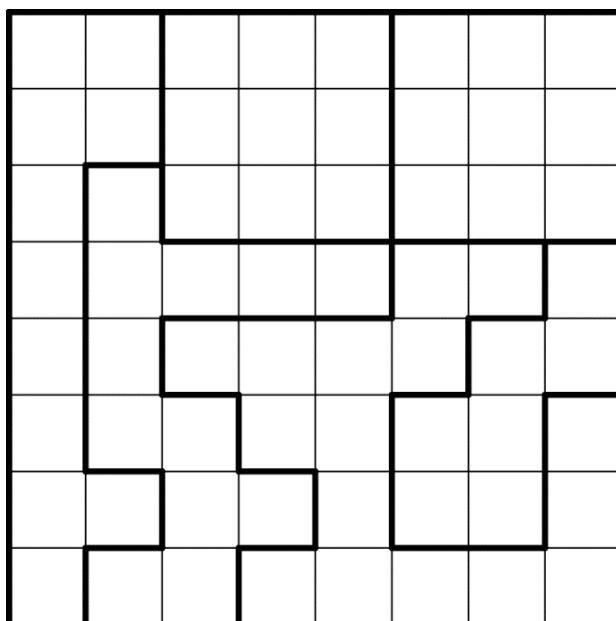
Duskbreak

Shade some cells to form a single connected network **without** islands of unshaded cells. No 2x2 areas maybe fully shaded or fully unshaded. Every outlined region contains exactly 3 shaded cells. A number outside a row or column **DOES NOT** represent the number of unshaded cells before the first shaded cell in that direction.



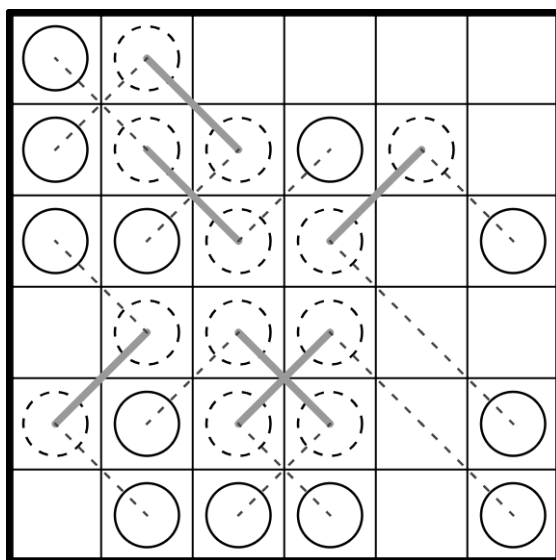
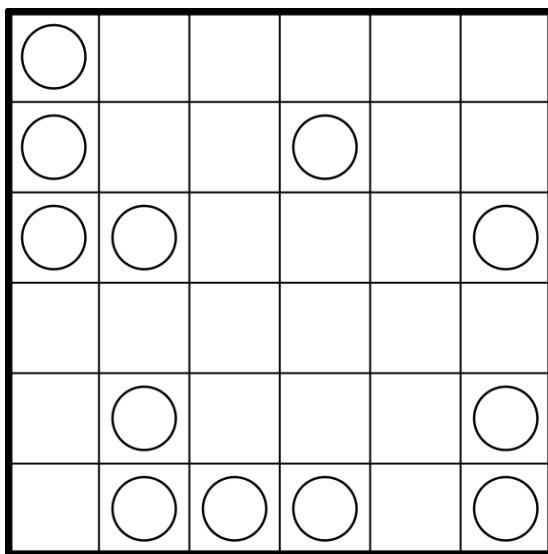
Half & Held

Shade dominoes and triminoes so that each domino is split by a region border; each trimino lies entirely within one region; every region contains exactly one trimino and two domino-halves.



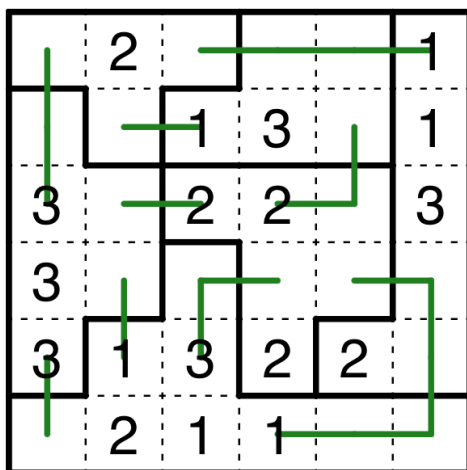
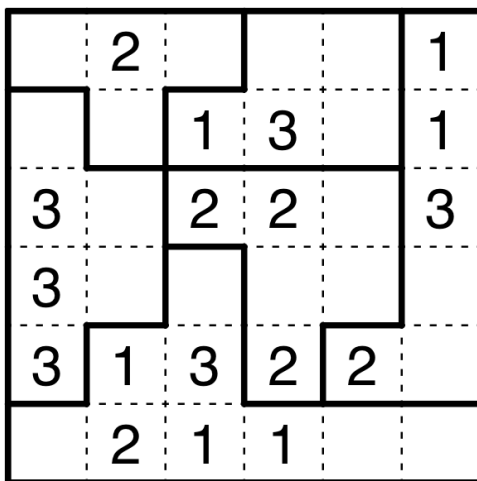
Dimer Dance

Move each circle 1–2 steps diagonally, without changing direction. No circle may pass through or land on a cell occupied by another circle (including starting positions). The paths of different circles may not overlap or share any cells. Each circle's destination must be empty; a circle cannot return to its starting position. In the final position, each circle must be diagonally adjacent to exactly one other circle.



Balancing Act

Move some numbers through horizontal and vertical paths. Paths can turn, but must pass through at least one region border. No number may pass through or land on a cell occupied by another letter (including starting positions). The paths of different numbers may not overlap or share any cells. Each number's destination must be empty and not located in its originating region. In the final position, each region must contain all numbers at least once.



Noisy Scrabble

Extend each word in the list by inserting a duplicate identical letter beside one of the letters. Place these modified words across or down so that all filled cells connect orthogonally. Words may cross, but must never be adjacent or overlapping within the same row or column.

CAR CART CYCLE JEEP PLANE SLEDGE TRAIN

			R	R			
				C			
	E				I		
					I		
		L					
			E				
	L	L					

	C	A	R	R	T		
					R		
	J		C	C	A	R	
	E		Y		I		
	E		C		I		
	P	L	L	A	N	E	
			E				
S	L	L	E	D	G	E	

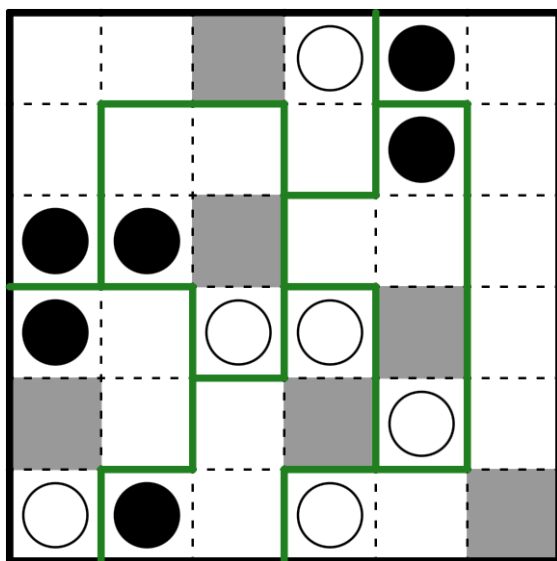
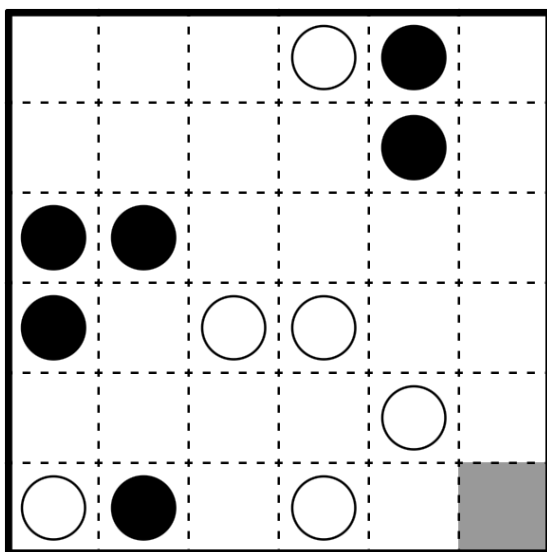
Example: SITA RAM BALI

	B			
R	A	A	M	
	A			
	L			
S	I	T	A	A

Crystal and Coral

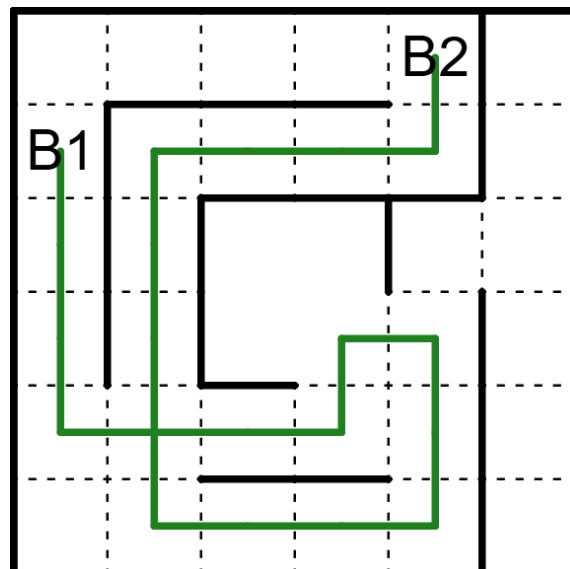
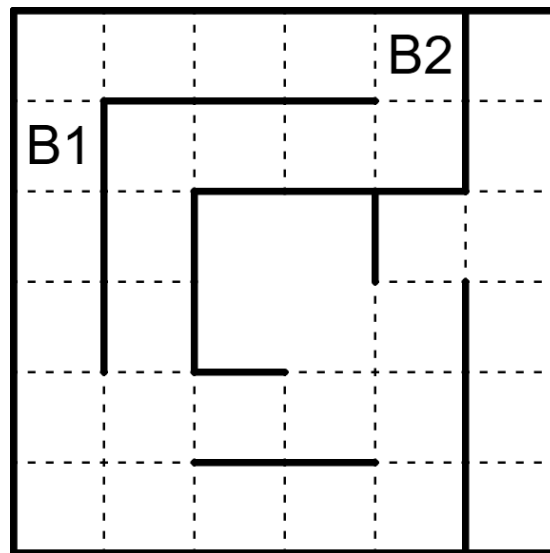
Divide the grid into orthogonal regions. Each region must contain **exactly 1 black circle and 1 white circle**. **Shade exactly one empty cell** in each region; no two shaded cells may be orthogonally adjacent. Inside each region:

The shaded cell separates the region into two orthogonally connected groups of unshaded cells. The groups are disjoint – they do not share cells. The group containing the white circle must form a **perfect rectangle**; the group containing the black circle must form a **non-rectangular shape**.



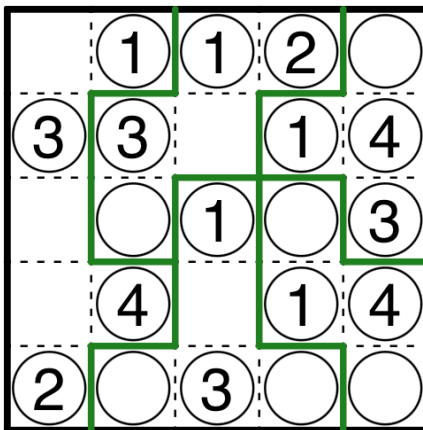
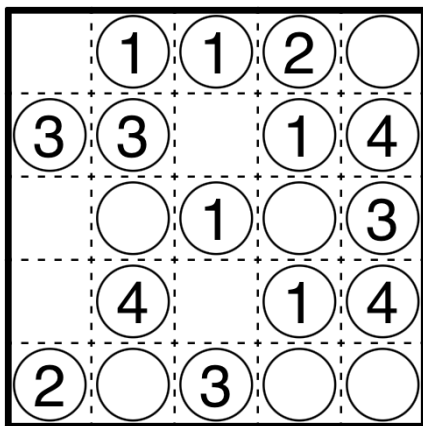
No Kings

Some bugs aim for the Godly status. However, they can't accomplish that without joining hands. Follow each bug's path through the maze until the central 2x2 King-hole. Each bug's path must intersect at least once with another bug's along the way. Paths must pass straight through intersections. (Example puzzle contains two bugs)



Sequence Scramble

Divide the grid into orthogonally connected regions, each containing exactly 4 circles and any number of empty cells. Within any region, if you follow an orthogonal path from one circle through all other circles, it should not be possible to fill the circles with different number from 1 to 4 so that all numbers are visited in ascending order.



Convey Circuit

Fill every empty cell with a number from 1 to 3. Divide the grid into orthogonally connected regions of exactly four cells, such that all cells within a region contain the same number. Draw a single, continuous, orthogonal and non-intersecting loop **through all cells**. Within any region, the loop must either pass straight through without turning, or make an even number of successive turns (**two at a time, or four at a time**).

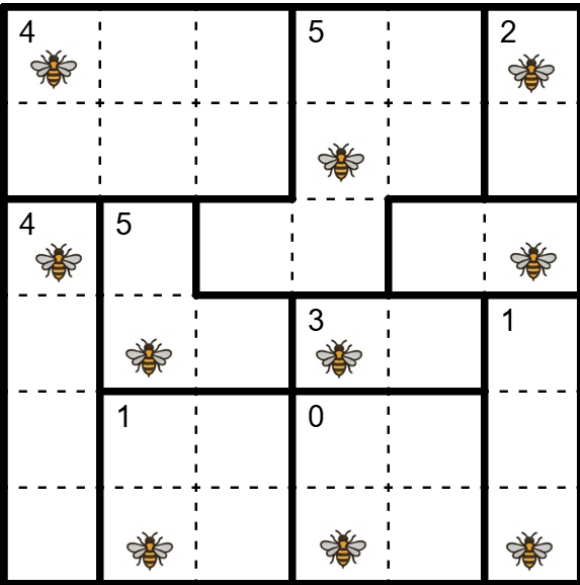
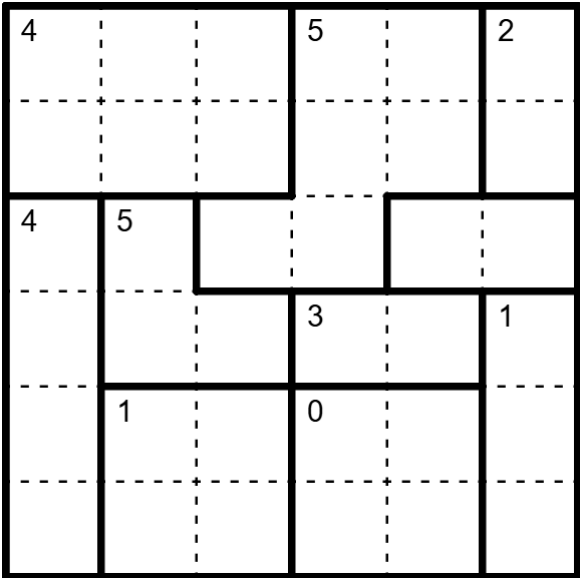
1		2			
	2	3		3	1
1				1	
2			1		
	3	3	1	2	1
2	2				2

1	1	2	2	2	2
1	2	3	3	3	1
1	2	3	1	1	1
2	2	2	1	2	1
2	3	3	1	2	1
2	2	3	3	2	2

Buzz Line

Place exactly one pollinator into each outlined region; no two pollinators may be orthogonally adjacent. A number indicates how many other pollinators are reachable from that cell along an L-shaped path (traveling straight, turning exactly once 90 degrees).

Obstacles: The path can cross any region boundary or empty cell, but it is blocked if it hits another pollinator before reaching the target. Given numbers do not block paths.



Closest Kin

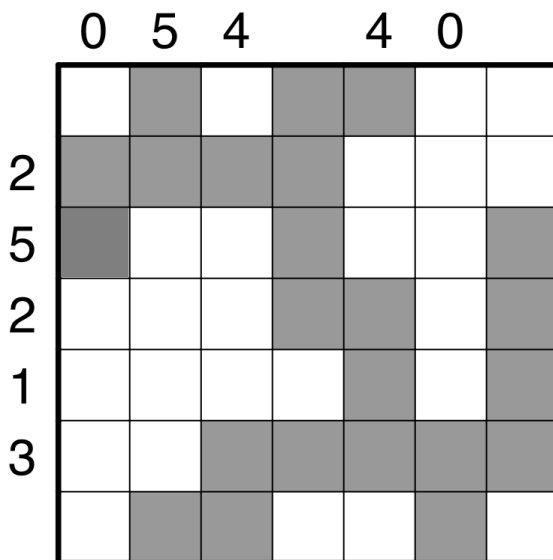
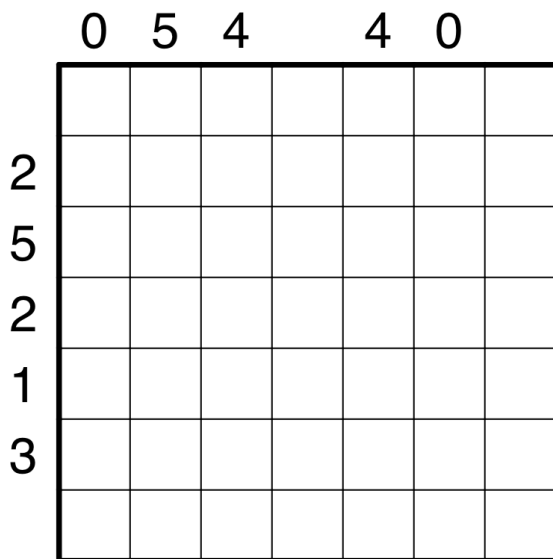
A number from 1 to 5 in each cell. Each region contains numbers from 1 to X where X is the area of the region. No pair of equal values orthogonally adjacent. Small number given in top-left corner of a cell represents the shortest manhattan distnace to the nearest number of the same value.

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

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

Watershed Interval

Shade some cells so that no 2x2 areas are entirely shaded. All shaded cells must form a single orthogonal network. Each number outside the grid indicates the exact gap between the first and last shaded cells along that row or column (the terminal shaded cells are themselves excluded from the count). When there is a given number, the corresponding row or column must contain at least 2 shaded cells.



Analogies to the title:

- The gaps loosely translate to intervals of land (the analogy isn't perfect as there could be shaded cells that translate to water along the stretch).
- Terminal shaded cells translate to two monitoring stations along the corresponding river section.

Arbor Logic

Divide the grid into contiguous orthogonal regions of two or more cells. Each region must contain at least one number. The number specifies the minimum number of branches required for a network to visit every cell in that region exactly once. A region containing a '1' must be filled by a single, unbranching path.

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

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

Oddments & Runs

Partition the grid into orthogonally connected, non-overlapping regions. The numbers in each region must conform to exactly one of two patterns, regardless of how the numbers are placed – **Consecutive trio**: exactly 3 consecutive numbers, or, **Parity balance**: one odd number and one even number.

Example:

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

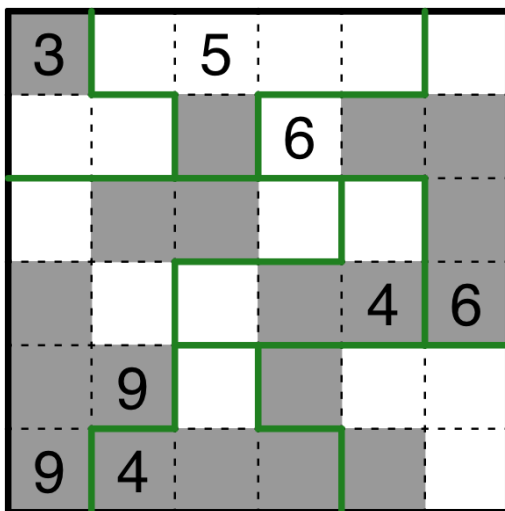
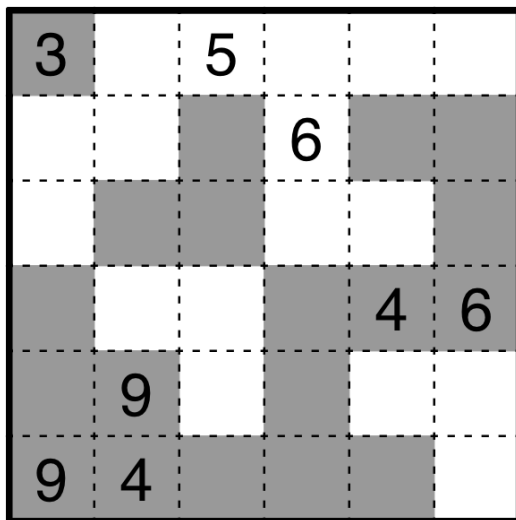
2	3		1
2	3	1	3
			2
4	2	1	1

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

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

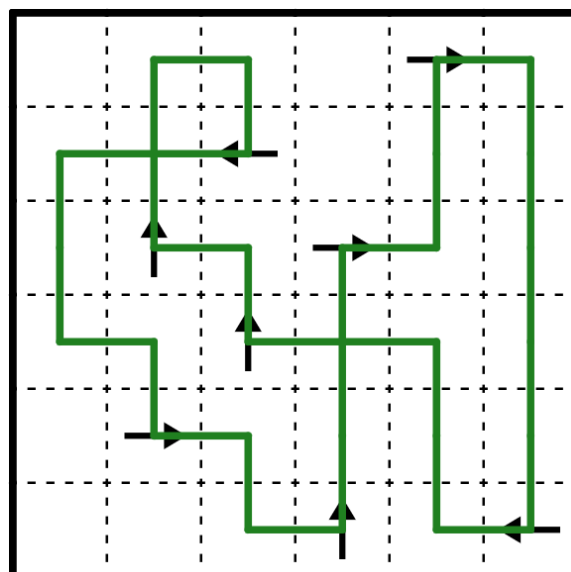
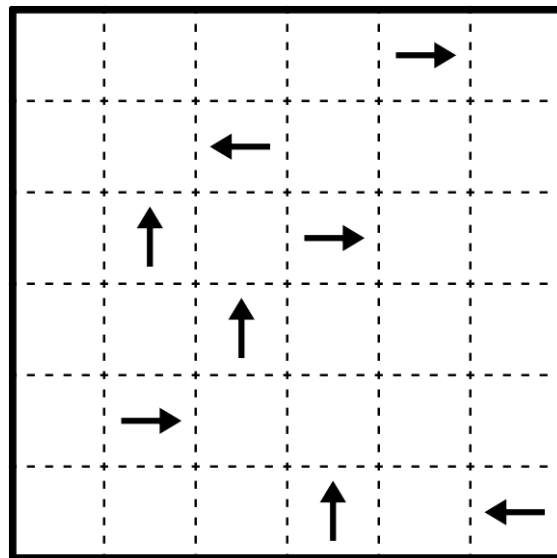
Unlike Any

Partition the grid into orthogonally connected, non-overlapping regions. Each region contains at least one shaded and one unshaded cell. If a region contains numbers, all of them equal the region's area. Within a region, no shaded contiguous block may orthogonally touch an unshaded block that is identical in all respects (rotations and reflections are considered identical).



Propulsion

Draw a single, closed, directional, and orthogonal loop. The loop may cross itself but must pass straight through intersections. The loop must visit each arrow, turn 90 degrees, and leave the arrow in the direction it points to. If the cell facing an arrow's nock is visited, the loop must leave the cell in the direction exactly opposite to the arrow's direction (in the nock's direction).



Gappy Scrabble

Enter the given words, across or down, so that all letters placed in the grid are orthogonally connected. Aside from the given words, there should be no sequences of two or more letters placed consecutively in any row or column. Gaps are allowed interior of words (no leading or trailing gaps). Gaps cannot be orthogonally adjacent to each other. All words must form an interconnected orthogonal network; gaps are part of the network.

Word List:

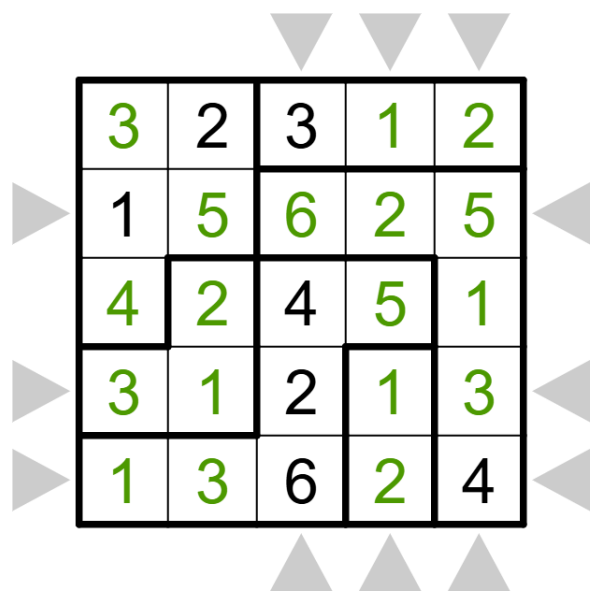
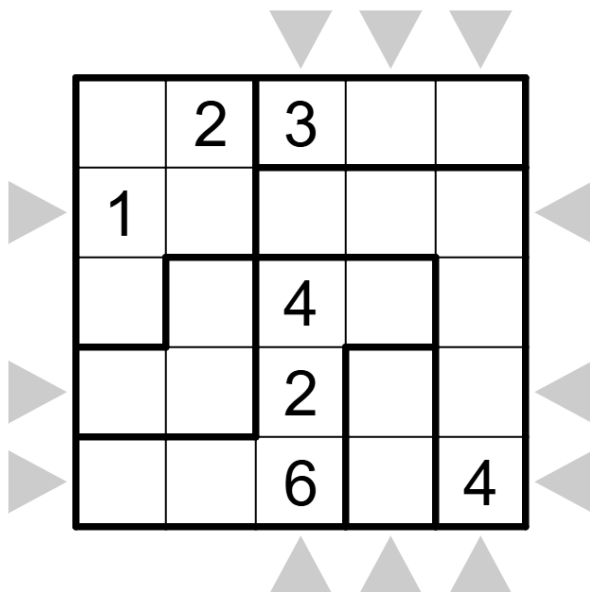
AIR ALL INN FILL LANE LINE NILE PANEER

A			R		A	
		A				
				N		
L			L		R	

	F				P	
A		I	R		A	
	I			I	N	N
L		A	N		E	
	L		I	N	E	
L			L		R	
	L		E			

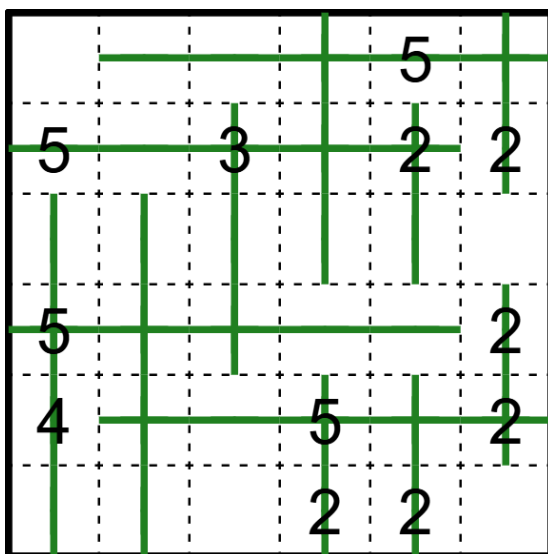
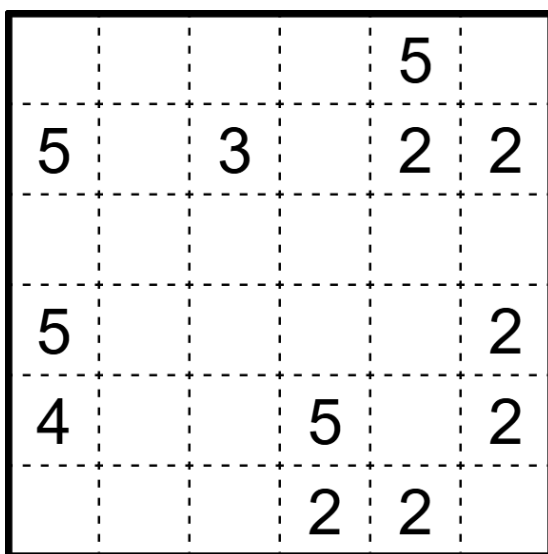
Mirrored Sums

Numbers 1 to X in each outlined region where X is the area of that region. Identical digits may not be adjacent. Marked rows and columns: sum of the first odd and first even digit when scanned from the mark must equal the sum of those when scanned from the mark at the opposite end. **All such row and columns are marked!**



Mono-axis

Draw edge-to-edge lines to form a single tree with no loops. Each line of length N must have at least one other line of length N running parallelly in another row/column. No two lines of the same length can run perpendicular to each other (for example, if a line of length 2 runs LR, no other line of length 2 can run TD). A cell with a number belongs to a line of that length.



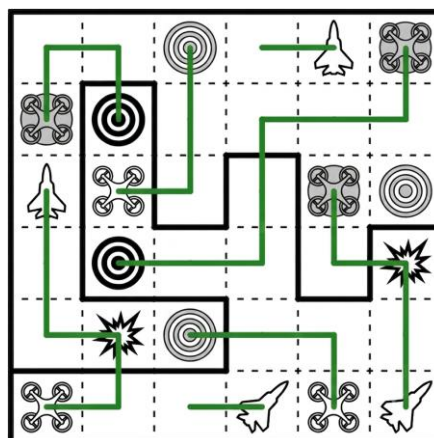
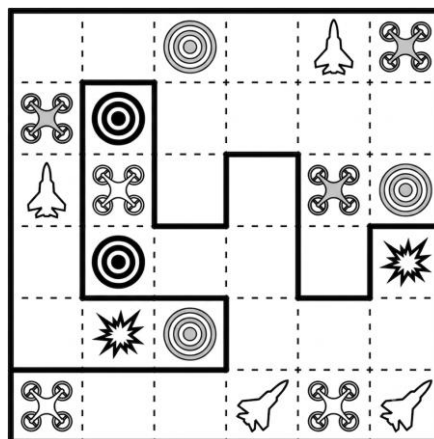
Aerial Warfare

Draw orthogonal non-overlapping paths through all empty cells, at least one cell long, for each drone and each interceptor. A drone's path either ends in a target (in the other country) or crosses an interceptor from the other country resulting in both the drone and the interceptor neutralizing/exploding in the cell of impact.

A drone's path cannot intersect or overlap with interceptor from its own region or with any other drones.

An interceptor's path either collides with a drone's, or ends in an empty cell (falling dead), never in a target.

Drones and interceptor may re-enter their own regions multiple times. Locations of some explosions are given.



Proximity

Divide the grid along the gridlines into orthogonal regions. A small number represents the shortest distance (manhattan distance) from its cell to an identical region (rotations and reflections are considered identical). A large number represents the area of the region it belongs to.

