

WPF PUZZLE GP 2022 COMPETITION BOOKLET

Host Country: Germany

Silke Berendes, Christoph Seeliger

Special Notes: The thicker borders on puzzles 21-22 are purely decorative and have no relevance to the puzzle.

Editor's Notes: Three puzzle types in this set have been known by other names in other competitions but I hope these more descriptive names are helpful to remember their mechanics. "Snake (Memory)" is known as "Persistence of Memory", which is evocative but doesn't convey the Snake-like nature. "Parking Lot (Accessible)" is known as "New Tren" or "Tren+", but the original Japanese title is "Paakingu", which means "Parking". "Island Nations" is a literal translation of the original Japanese title "Shimaguni".

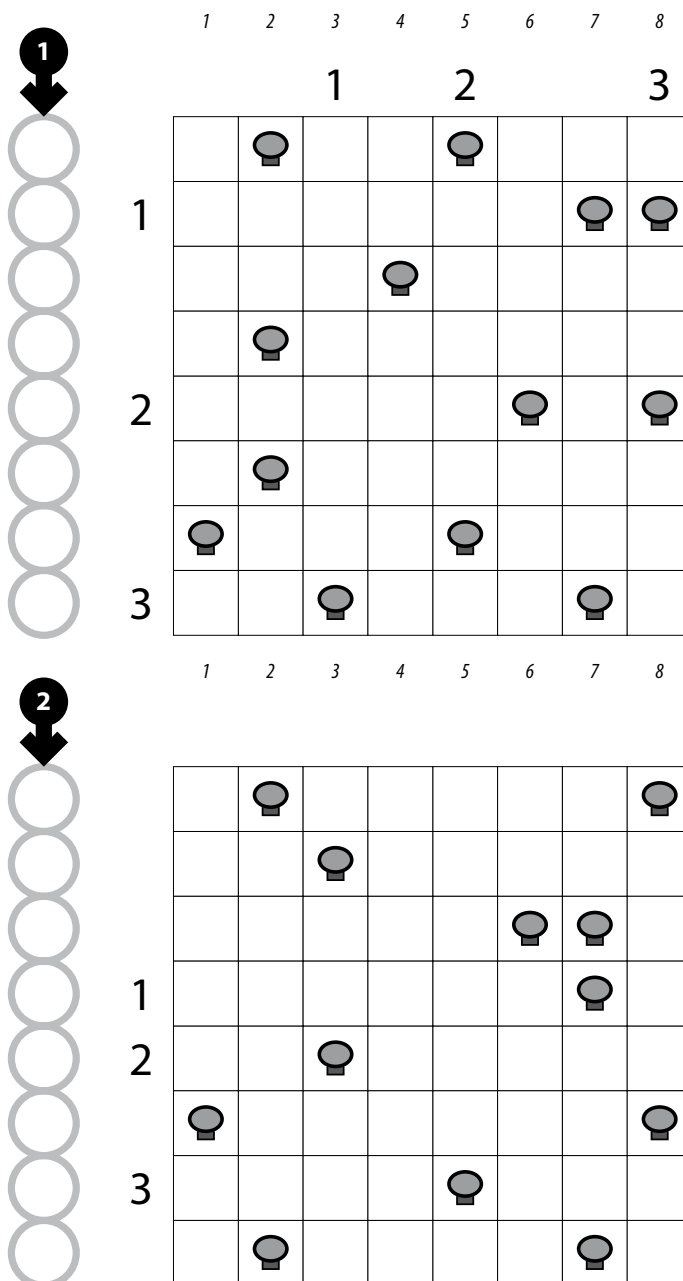
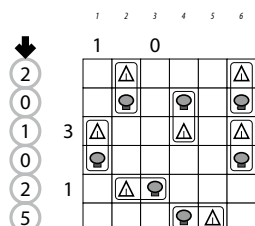
1-2. Tents [Silke Berendes] (7, 6 points)

Place tents into the empty cells in the grid, at most one tent per cell. Tents may not be in cells that share a corner (or an edge). The tents and trees must match up in such a way that each tent matches one tree. A tent must be in a cell that shares an edge with the cell of its matching tree. (It is permissible for a tent's cell to share corners or edges with non-matching trees.) Some rows and columns may be numbered. A number indicates the number of tents that must be in that row or column.

The numbers on the far top of the diagram are for Answer purposes only.

Answer: For each row from top to bottom, enter the number of the first column from the left where a tent appears (the number on the far top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first tent appears in column 10. If the row has no tents, enter '0'.

Example Answer: 201025



3-4. Easy As [Silke Berendes] (6, 6 points)

Place letters of the specified list into some cells, no more than one letter per cell, so that each letter appears exactly once in each row and column. The letters outside the grid indicate the first letter that can be seen in the respective row or column from the respective direction. Some letters may already be filled in for you. Some cells might be marked with a cross; do not put any letters into those cells.

Answer: For each designated row, enter its contents. Do *not* include any letters outside the grid. Use 'x' for an empty cell.

Example Answer: CBXXA, BXXAC

5. Scrabble (Initials) [Silke Berendes] (4 points)

Put at most one letter into each cell so that the given words can be read either across (left-to-right) or down (top-to-bottom) in consecutive cells in the grid. Every word must appear in the grid exactly once, and no other words may appear in the grid (that is, if two cells are filled and are adjacent orthogonally, then there must be a word that uses both of them). Every word must have either a blank cell or the edge of the grid before and after it. All letters must be (orthogonally) connected in a single group.

The starting letter of each word is provided in the grid.

Answer: For each designated row, enter its contents from left to right, ignoring any blank cells. If all cells in the row are blank, enter a single letter 'X'.

Example Answer: OOPUZZLE, LISTM

[illegible]

The diagram shows a 5x5 grid. The columns are labeled B, A, B at the top and A, A, B at the bottom. The rows are labeled C, C, A on the left and A, C on the right. To the left of the grid, there is a set notation {A,B,C}. Below the grid, there are two arrows pointing right, labeled 3a and 3b.

A 5x5 grid with labels $\{A, B, C\}$ at the top left, C at the top center, C at the top right, C at the bottom center, B at the bottom right, and C at the bottom left. Arrows labeled $4a$ and $4b$ point to the right from the left side of the grid.

[illegible]

BARCA
BATEAU
BOAT
BOOT
BROD

CHUAN
NAUT
PAAT
PLOIO
VENE



6. Scrabble (Initials) [Silke Berendes] (15 points)

Answer: For each designated row, enter its contents from left to right, ignoring any blank cells. If all cells in the row are blank, enter a single letter 'X'.

Example Answer: OOPUZZLE, LISTM

		W													
→	O		O				P	U	Z	Z	L	E			
	F	O	R											X	
			D											A	
→	L	I	S	T										M	
		S		H										P	
				I										L	
				S	C	R	A	B	B	L	E				

6a →

M		C			N										D
										R					
							A								
							M								
				L											
	E														
									I						M
S															
									G		N				
M			S			D									
								W							
		P													
					M										

6b →

AMAZONAS
CHENAB
DNEPR
DONAU
EBRO
ELBE
GANGES

GLOMMA
ISCHIM
LENA
LOIRE
MAAS
MACKENZIE
MEKONG

MFIMI
MISSOURI
MURRAY
NIGER
NIL
PARANA
RHEIN

RHONE
SAMBESI
SEINE
SNAKE
WOLGA

**7-8. Tapa (Twilight) [Silke Berendes] (16, 19 points)**

Shade some empty cells black; cells with numbers *can* be shaded. All black cells connect along edges to create a single connected region. (It is permissible for the region to touch itself at a corner, but touching at a corner does not connect the region.) No 2×2 group of squares can be entirely shaded black.

Numbers in an unshaded cell indicate the lengths of contiguous black cell groups along the “ring” of 8 cells touching that cell (fewer for cells along the outside edge). If there is more than one number in a cell, then there must be at least one white (unshaded) cell between the black cell groups. The numbers are given in *no particular order*. As a special case, if the number given in a cell is a zero (0), it means that none of the cells around that cell can be shaded black.

Numbers in a shaded cell indicate the lengths of contiguous *white* cell groups around its “ring” in the same manner.

Answer: For each designated row, enter its contents from left to right. Use ‘x’ for an unshaded cell and ‘o’ for a shaded cell. You may use two other letters or numbers, as long as they are distinct.

Example Answer: ooxox, xoooo



7a →

7b →

					3		
						5	
	3	3					
1	3			3		1	5
	3	3			5	1	1
							3
	3						

8a →

8b →

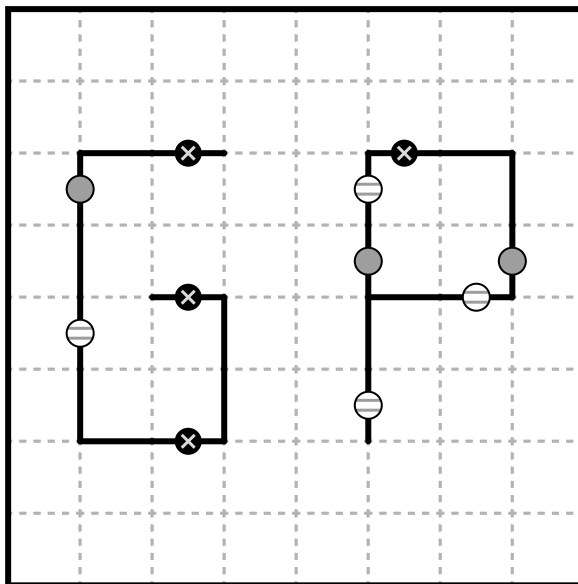
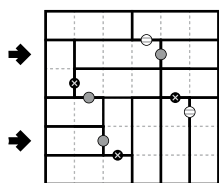
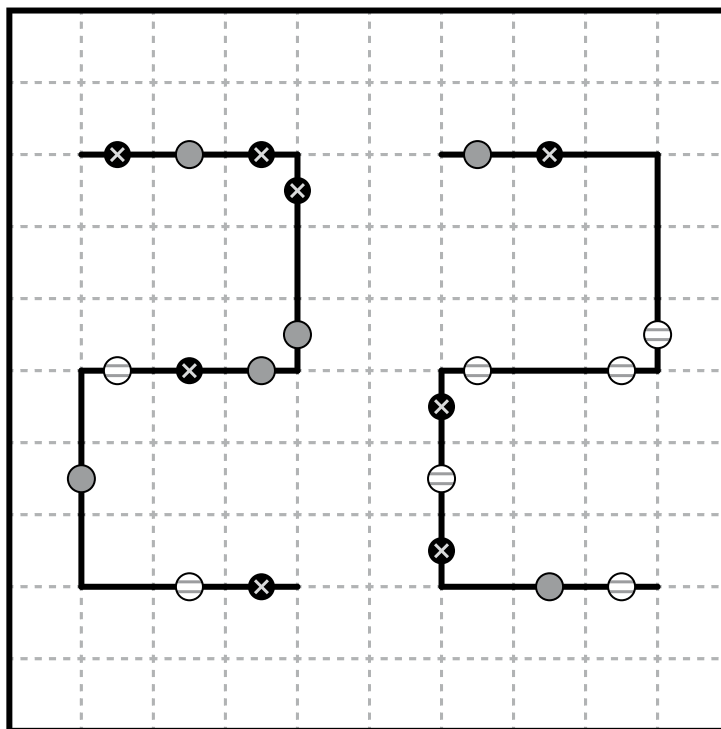
					2	2	
1	1				2	2	
			2			1	2
				2			
	2	2					
			2	2		1	2
2							
			1				


9-10. Voxas [Christoph Seeliger] (11, 27 points)

Divide the grid into rectangular-shaped regions along the grid lines. Every region must have a height of 1 cell ("horizontal") or a width of 1 cell ("vertical"), and the other dimension must be 2 ("short") or 3 ("long"). Some region boundaries are given to you. Additionally, some region boundaries are marked with a dot. A white dot (with an "=" symbol) must touch two regions with identical height and width. A black dot (with an "X" symbol) must touch a horizontal region and a vertical region; it must also touch a short region and a long region. A gray dot (with no symbol) means that that boundary cannot be marked with a white dot nor a black dot.

Answer: For each designated row, enter the height of the region containing each cell, from left to right. (Enter multiple 1s for horizontal regions.)

Example Answer: 211111, 112333

9a →

9b →

10a →

10b →

11-12. Snake (Memory) [Silke Berendes] (18, 18 points)

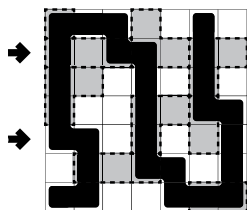
Locate a “snake” in the grid. The snake is a path that starts in a cell, goes through some number of cells orthogonally, and ends in a cell. Each cell is used at most once by the snake. The snake may not loop around to touch itself, not even diagonally. (In other words, if two cells in the snake touch orthogonally, then they must be exactly one cell apart along the path of the snake, and if two cells in the snake touch diagonally, then they must be exactly two cells apart along the path of the snake.)

Some areas of the grid are marked with shaded polyominoes. Every polyomino must be visited by the snake. Polyominoes that have the same shape *and orientation* must be visited by the snake in exactly the same way, including where the snake enters and leaves.

Answer: For each designated row, enter the letter for each cell, from left to right. The letter for a cell is 'I' if the path goes straight through the cell exactly once, 'L' if the path turns in the cell, and 'X' if the path does not go through the cell (this includes the endpoints). You may use other letters or numbers, as long as they are distinct.

Example Answer:

IXLLXIX, LLXIXXI



11a ➔

11b ➔

12a ➔

12b ➔

**13-14. Parking Lot (Accessible) [Silke Berendes] (15, 37 points)**

Locate some automobiles in the grid.
Automobiles have a 1×2 or 1×3 shape, do not overlap each other, and can be oriented horizontally or vertically. Each automobile contains exactly one given number. The number in the automobile represents the number of other positions the automobile can "drive" to along its long direction without overlapping with another automobile (that is, the number of empty cells directly ahead or behind the automobile's length-1 edges).

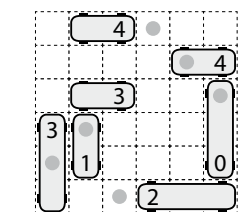
Cells that do not contain parts of automobiles must all be connected orthogonally.

Answer: Enter the contents of each dotted cell, reading the dots from left to right. (Ignore which row the dots are in.) If the cell is part of an automobile, enter the number on that automobile; if the cell is not part of an automobile, enter 'X'.

Example Answer: 31XX40

2				2	●		5
●	1		3	●	0		
							●
					4		
				5		●	
	●	●	1		1		
		3	●				
	1						4

13 → ○ ○ ○ ○ ○ ○ ○ ○



→ 3 1 X X 4 0

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

14 → ○ ○ ○ ○ ○ ○ ○ ○

15-16. Japanese Sums [Silke Berendes] (29, 29 points)

Place a digit from the specified list into some cells so that no digit appears more than once in each row or column. Cells may remain empty. Numbers outside the grid indicate all sums of continuous groups of digits (including “sums” of a single digit) along that row or column, in positional order. These groups are separated by empty cells. A question mark (?) indicates an unspecified (but non-zero) sum.

Answer: For each designated row, enter its contents, using 'X' for an empty cell. Do not include any numbers outside the grid.

Example Answer:

7X1X4, 127X5



				3	11		6	
	{1-7}			13	2	19	1	24
	7	8		3	4		2	6
		18			7	5	4	2
➡	7	1	4	7		1		4
➡	10	5		1	2	7		5
	5	14		5		6	1	7

Diagram illustrating a 3D coordinate system with axes labeled 15a, 15b, and 15c. The axes are defined by the following values:

- 15a axis (vertical):** 5, 7, 4, 9, 6
- 15b axis (horizontal, left to right):** 5, 8, 26, 6, 40, 12, 17, 3
- 15c axis (depth, front to back):** 3, 8, 1, 5, 8, 16, 9, 11, 5, 8, 4, 35, 14, 8, 17, 13

A set $\{1-9\}$ is indicated near the 15c axis.

			1	5	9		4	
{1-9}	11	11	10	2	4	7	5	24
	8	9	9	23	9	18	6	2

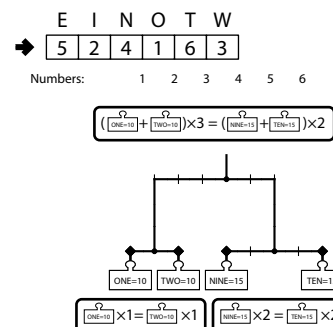
16a 	6	6	6						
	4	5	6						
	10	11	12						
	6	7	8						
	5	20	3						
	3	8	8						
16b 			37						
	1	2	3						


17. Letter Weights (Balance) [Christoph Seeliger] (36 points)

Assign a number to each letter so that the mobile balances — that is, at each fulcrum (round black dot), the total torque (weight multiplied by distance from the fulcrum) on both sides of the balance must be the same. Ignore any weight of the rods themselves. The weight of a word is the sum of the numbers assigned to its letters. Different letters must have different numbers. The list of allowed numbers is given in a row underneath the cells.

Answer: Enter the contents of the cells, from left to right. Enter all digits for multi-digit numbers (for example, if the cell contents were 12, then 5, then 25, enter 12525).

Example Answer: 524163

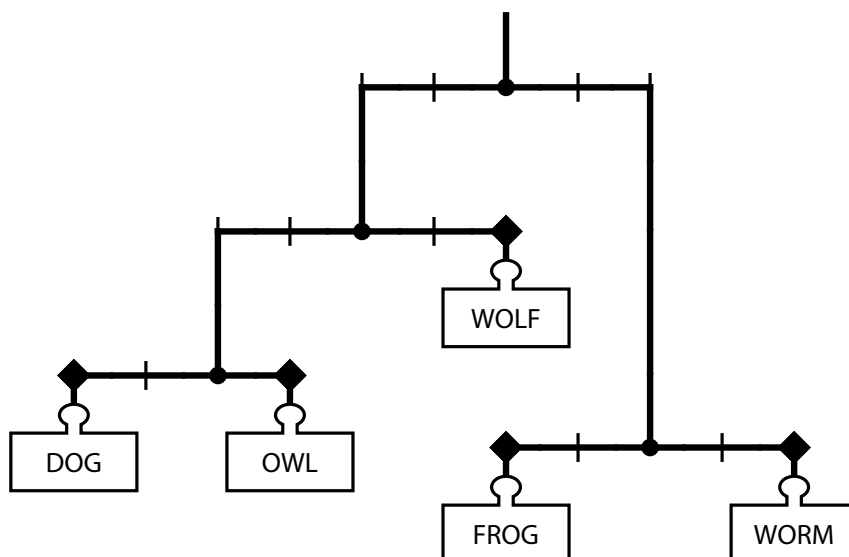


D F G L M O R W

17 →

--	--	--	--	--	--	--	--

Numbers: 1 2 3 4 5 6 7 8



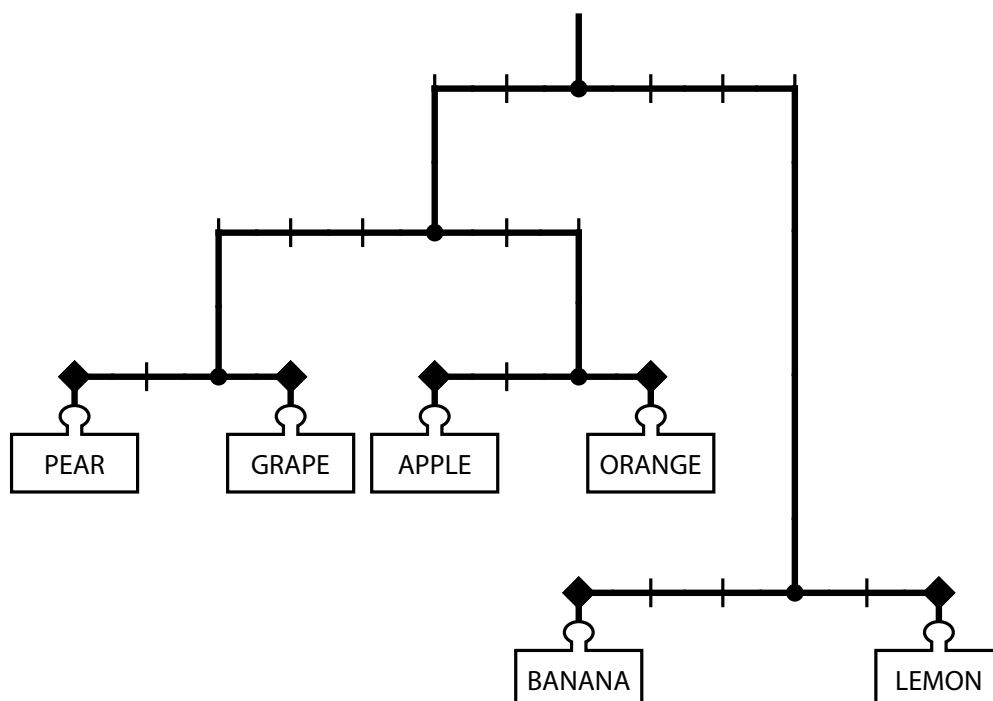
**18. Letter Weights (Balance) [Christoph Seeliger] (94 points)**

Answer: Enter the contents of the cells, from left to right. Enter all digits for multi-digit numbers (for example, if the cell contents were 12, then 5, then 25, enter 12525).

18 →

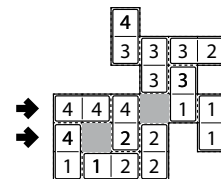
A	B	E	G	L	M	N	O	P	R

Numbers: 1 2 3 4 5 6 7 8 9 10




19. Blackout Dominoes [Silke Berendes] (54 points)

Shade some cells, label all other cells with numbers, and identify the locations of dominoes such that the diagram contains a full set of dominoes. If two domino halves touch along an edge (and are not part of the same domino), then they must contain the same number. The orientation of the numbers does not matter. A full set of dominoes will be provided for your convenience; the smallest and largest numbers on the dominoes may change from puzzle to puzzle. Shaded cells cannot share any edges with other shaded cells or the outer edge of the diagram. Some cells are already labeled with numbers; these cells cannot be shaded.



Answer: For each designated row, enter all the numbers in that row, from left to right. Use 'x' to denote a shaded cell. Skip over any empty area that is not part of the diagram.

Example Answer: 444x11, 4x221

1	1
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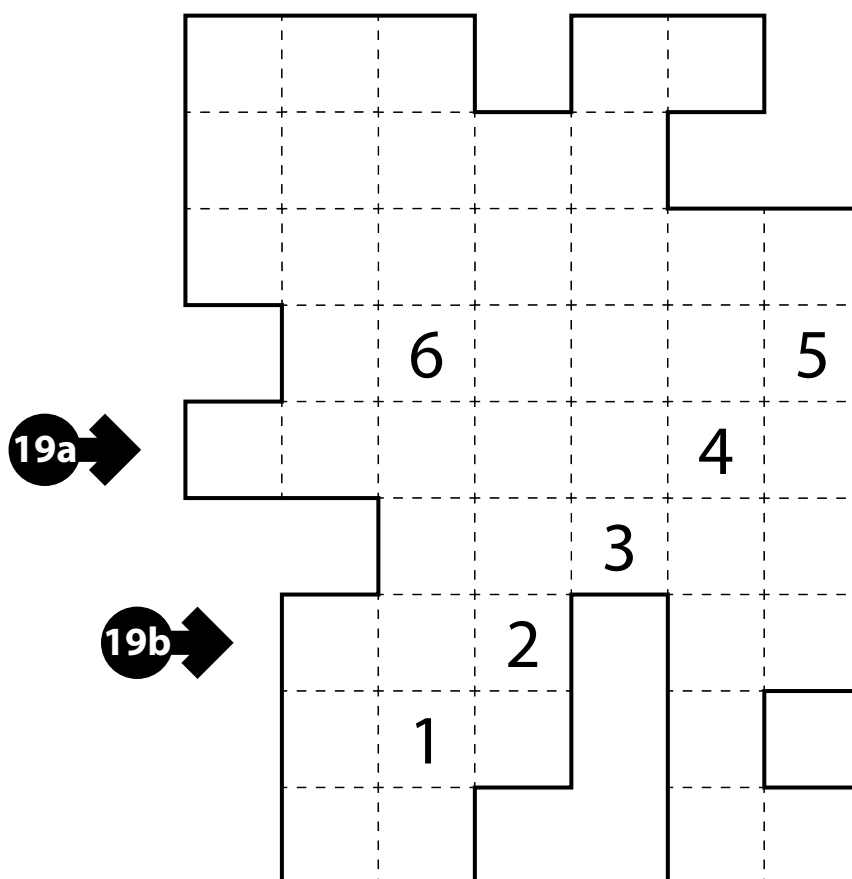
1	2	2	2
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1	3	2	3	3	3
---	---	---	---	---	---

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

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

1	6	2	6	3	6	4	6	5	6	6	6
---	---	---	---	---	---	---	---	---	---	---	---

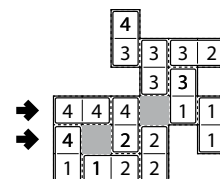




20. Blackout Dominoes [Silke Berendes] (59 points)

Answer: For each designated row, enter all the numbers in that row, from left to right. Use 'x' to denote a shaded cell. Skip over any empty area that is not part of the diagram.

Example Answer: 444X11, 4X221



1	1
---	---

1	2	2	2
---	---	---	---

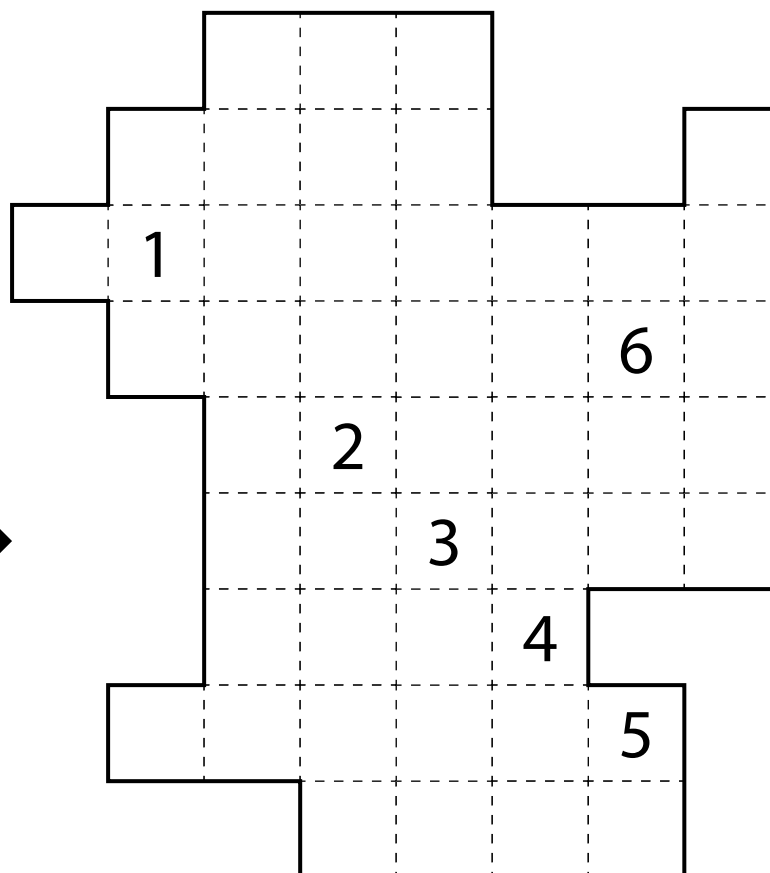
1	3	2	3	3	3
---	---	---	---	---	---

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

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

1	6	2	6	3	6	4	6	5	6	6	6
---	---	---	---	---	---	---	---	---	---	---	---

20a →



20b →

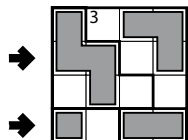


21-22. Island Nations [Christoph Seeliger] (56, 50 points)

Locate a single polyomino (a group of one or more cells connected along edges) in each region. Polyominoes must not share a cell edge with other polyominoes. A number in a region indicates the area of the polyomino in that region. (Cells with numbers may or may not be part of a polyomino.) Regions that share a cell edge must not have polyominoes of the same area.

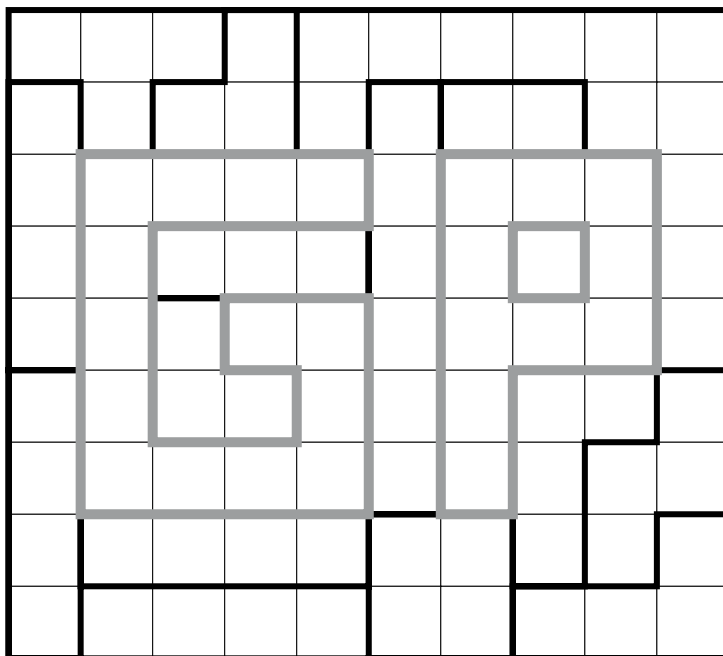
Answer: For each designated row, enter its contents. Use ○ for a cell occupied by a polyomino and × for a cell not occupied by any polyomino. You may use two other letters or numbers, as long as they are distinct.

Example Answer: ○○○○, ○×○○



21a →

21b →



22a →

22b →

