

WPF PUZZLE GP 2019 INSTRUCTION BOOKLET

Host Country: Czech Republic & Slovakia

Jan Novotný & Matej Uher

Special Notes: Make sure to check the special rules for puzzles 8-21..

Points:

1.	Battleships	25
2.	Fillomino	21
3.	Yajilin	31
4.	Endpoints	45
5.	Easy As...	23
6.	Thermometers	33
7.	Futoshiki	25
8.	Battleships (Iso)	47
9.	Fillomino (Iso)	15
10.	Yajilin (Iso)	18
11.	Endpoints (Iso)	5
12.	Easy As... (Iso)	41
13.	Thermometers (Iso)	77
14.	Futoshiki (Iso, Sudoku)	64
15.	Battleships (Hex)	20
16.	Fillomino (Hex)	48
17.	Yajilin (Hex)	37
18.	Endpoints (Hex)	27
19.	Easy As... (Hex)	31
20.	Thermometers (Hex)	29
21.	Futoshiki (Hex)	115

TOTAL: 777

1. Battleships [Jan Novotný] (25 points)

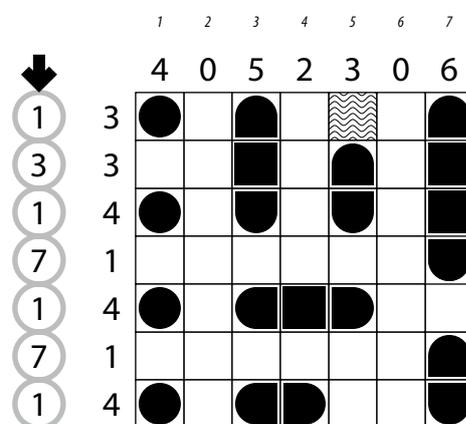
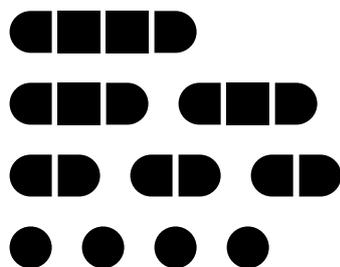
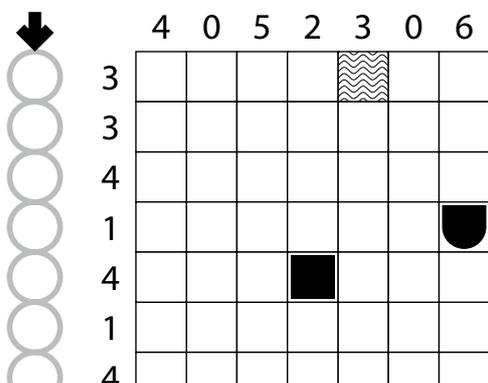
Locate the indicated fleet of ships in the grid. Ships may be rotated before placed in the grid. Each piece of a ship occupies a single cell. A cell that does not contain a ship piece is considered "sea". Ships can be rotated. Ships do not touch each other, not even diagonally (that is, if two ship pieces are cells that share an edge or a diagonal, they must be part of the same ship). The contents of some cells are given for you.

Each number to the top and left of the grid reveals the number of ship pieces that must be located in that row or column (including any that might be given for you).

The numbers on 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 ship piece appears (the number on far top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first ship piece appears in column 10. If the row is empty, enter '0'.

Example Answer: 1 3 1 7 4 7 1 5 6 7



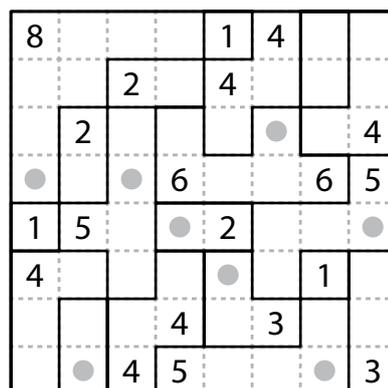
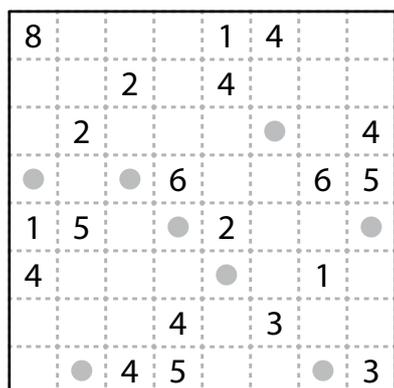
2. Fillomino [Matej Uher] (21 points)

Divide the grid along the dotted lines into regions (called polyominoes) so that no two polyominoes with the same area share an edge. Inside some cells are numbers; each number must equal the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers. (It is possible to have a "hidden" polyomino: a polyomino without any of the given numbers. "Hidden" polyominoes may have any area, including a value not present in the starting grid, such as a 6 in a puzzle with only clues numbered 1-5.)

The dots in cells are only used for entering your answers.

Answer: Enter the area of the polyomino each dot is in, reading the dots from left to right. (Ignore which row the dots are in.) Use only the last digit for two-digit numbers; e.g., use '0' for a polyomino of size 10.

Example Answer: 8 2 5 2 3 6 5 5



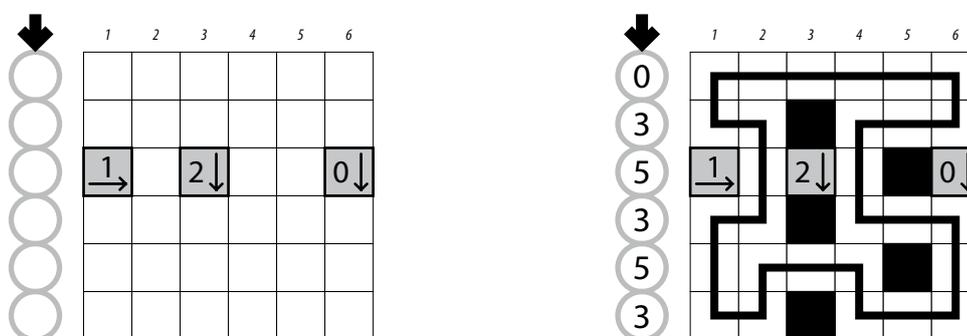
3. Yajilin [Matej Uher] (31 points)

Blacken some white cells and then draw a single closed loop (without intersections or crossings) through all remaining white cells. The loop may not intersect itself, go through a cell corner, or go through a cell more than once. The loop must go through the center of every cell it goes through and all turns in the loop must be at cell centers. Blackened cells cannot share an edge with each other. Some cells are outlined and in gray and cannot be part of the loop. Numbered arrows in such cells indicate the total number of blackened cells along the direction of the arrow, starting in the arrowed cell and going along a row or column to the edge of the grid.

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

Answer: For each row from top to bottom, enter the column number of the left-most blackened cell. (Outlined gray cells are not blackened.) Use only the last digit for two-digit numbers; e.g., use '0' for column 10. If none of the cells in a row are blackened, enter '0' for that row.

Example Answer: 035353



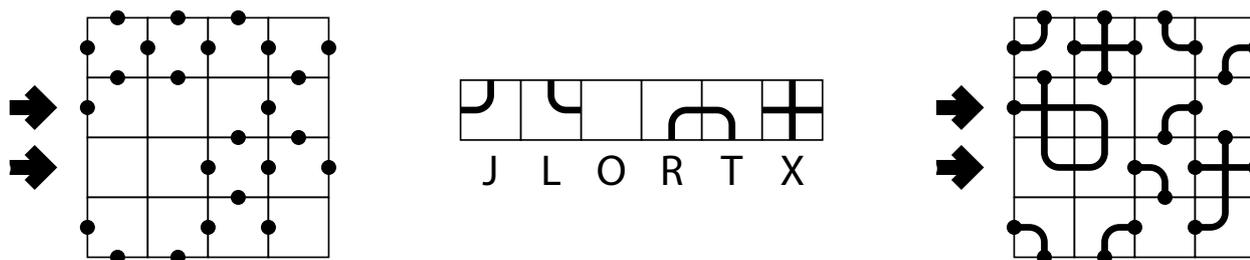
4. Endpoints [Matej Uher] (45 points)

A list of available symbols (possibly including a blank symbol), showing ways to connect edges of cells, is provided. Draw a symbol from the list into each cell (one symbol per cell) such that the symbols in each row (and column) are all different. Symbols may not be rotated. Each dot touches *exactly* one symbol (you may think of dots as "endpoints" of shapes). All possible dots (on edges of cells) are given.

The letters below the symbols are for answer purposes only.

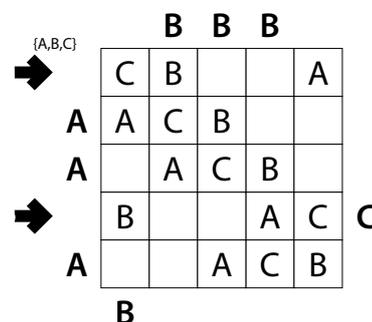
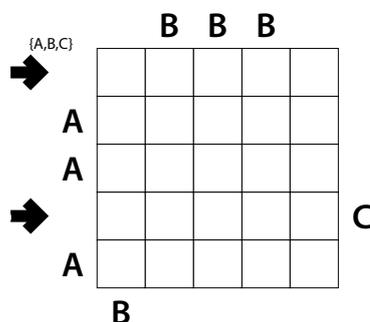
Answer: For each designated row, enter its contents from left to right.

Example Answer: XTRO, LJTX



5. Easy As... [Jan Novotný] (23 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.

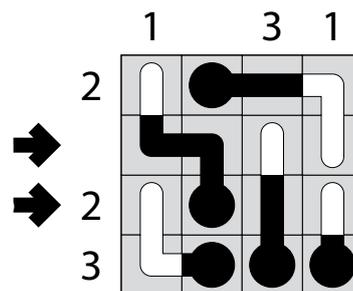
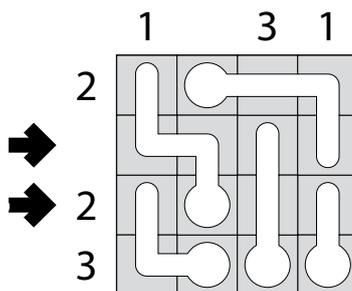


Answer: For each designated row, enter its contents. Do *not* include any letters outside the grid. Use 'X' for an empty cell.

Example Answer: CBXXA, BXXAC

6. Thermometers [Jan Novotný] (33 points)

Thermometers are given in the grid. Each thermometer has a bulb (a large round end) in one cell and connects several other cells in a path, ending at the "top" of the thermometer. Shade in some cells of the grid such that within each thermometer the shaded cells are "filled in from the bulb to the top"; that is, there is no unshaded cell closer (along the path of the thermometer) to the bulb than any shaded cell.



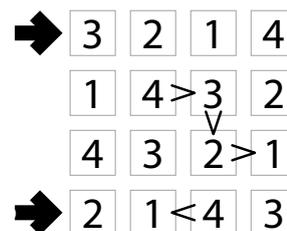
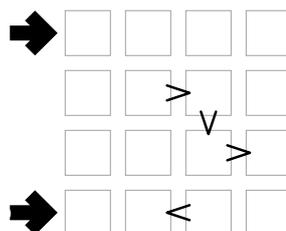
Each number to the top and left of the grid reveals the number of shaded cells that must be located in that row or column.

Answer: For each designated row, enter its contents from left to right. Use 'O' for a shaded cell and 'X' for an unshaded cell (you may switch the two, as long as you are consistent).

Example Answer: OOX, XOX (or XXO, OXX)

7. Futoshiki [Jan Novotný] (25 points)

Place a number from 1 to X (integers only) into each cell so that each number appears exactly once in each row and column. (X is the number of cells in each row.) Some inequality relations are given between adjacent cells; they must apply to the numbers in those cells.



Answer: For each designated row, enter its contents.

Example Answer: 3214, 2143

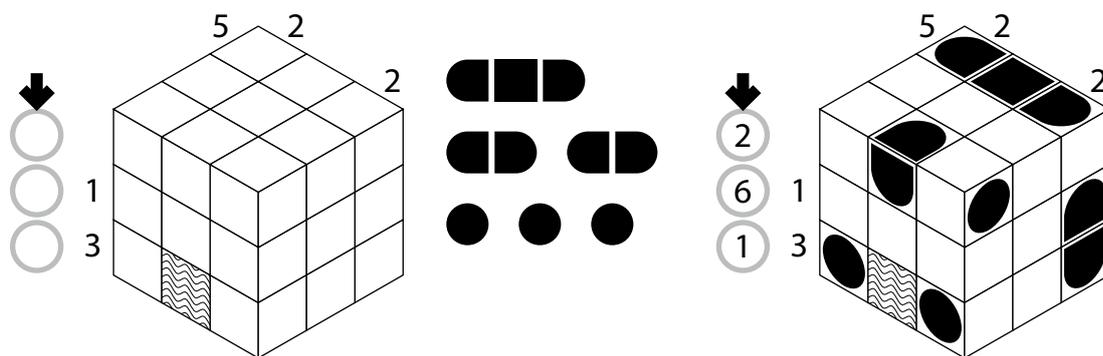
Instructions for Puzzles 8-14. Puzzles 8-14 use isometric grids instead of standard square grids. Isometric grids have rhombuses as cells, representing squares on a projected three-dimensional surface. "Rows and columns" in an isometric grid are not straight on the page and can change direction, but always enter and exit through opposite sides of a rhombic cell.

For answer keys that refer to the first column from the left with a feature (Battleships, Yajilin), the "column numbers" are 1 for the left-most cell in the row, 2 for the second left-most cell in the row, and so on. The column numbers (normally used to help with the answer key) are not supplied.

8. Battleships (Iso) [Jan Novotný] (47 points)

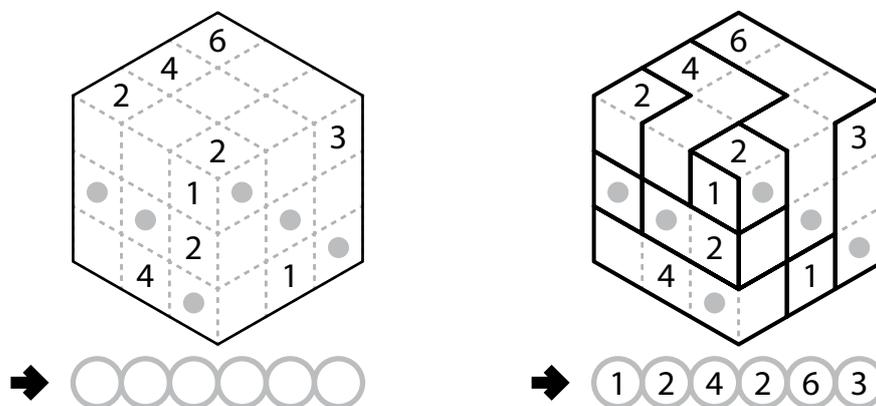
Extra rule clarification:
Ships may "bend"
along with rows. Note
that the fleet is not the
standard Battleship
fleet.

Example Answer: 261



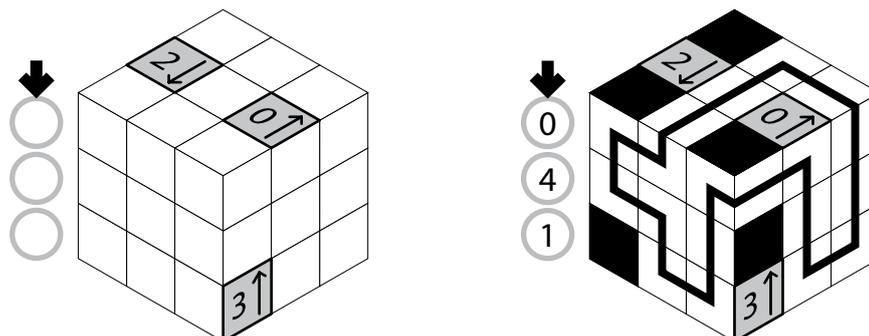
9. Fillomino (Iso) [Matej Uher] (15 points)

Example Answer: 124263



10. Yajilin (Iso) [Matej Uher] (18 points)

Example Answer: 041

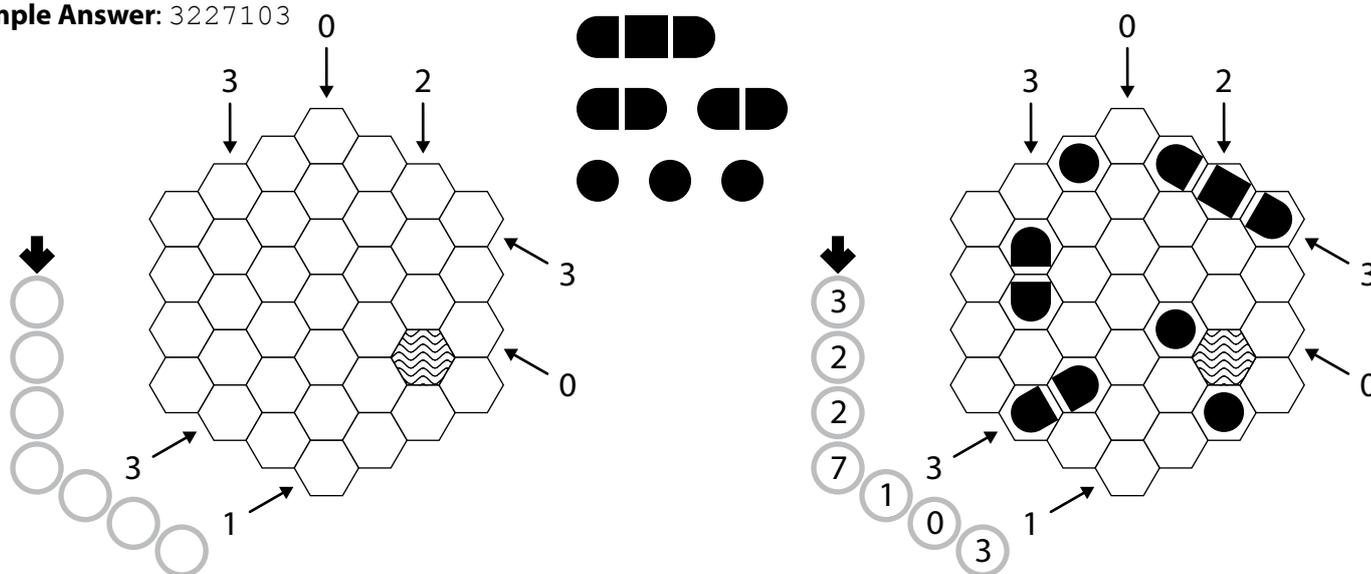


Instructions for Puzzles 15-21. Puzzles 15-21 use hexagonal grids instead of standard square grids. Hexagonal grids have hexagons as cells. "Rows and columns" in a hexagonal grid are still straight, and always enter and exit through opposite sides of a cell, but now each cell is part of three "rows or columns". Clues for rows can be on any side of the grid but will be clearly indicated.

For answer keys that refer to the first column from the left with a feature (Battleships, Yajilin), the "column numbers" are 1 for the left-most cell in the row, 2 for the second left-most cell in the row, and so on. The column numbers (normally used to help with the answer key) are not supplied.

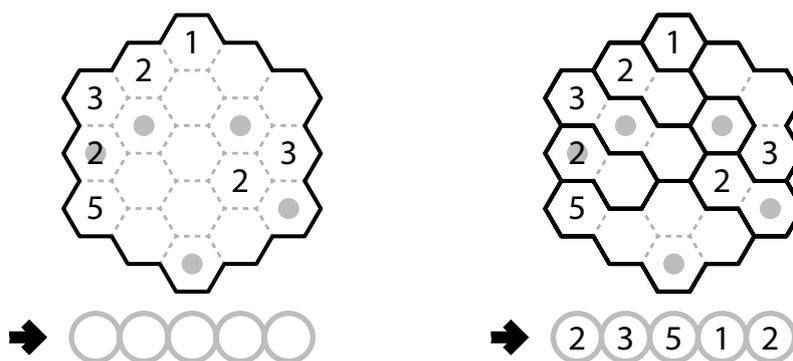
15. Battleships (Hex) [Jan Novotný] (20 points)

Example Answer: 3227103



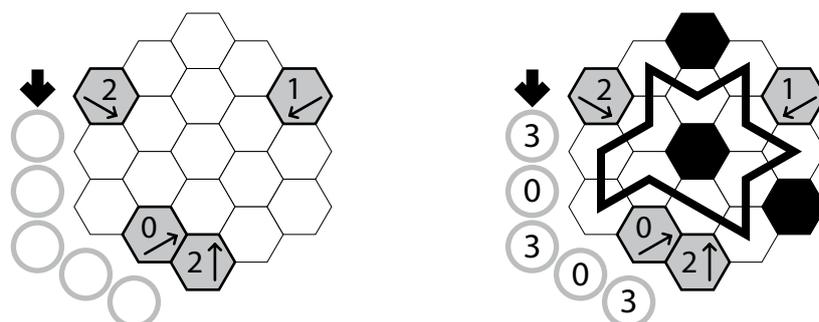
16. Fillomino (Hex) [Matej Uher] (48 points)

Example Answer: 23512



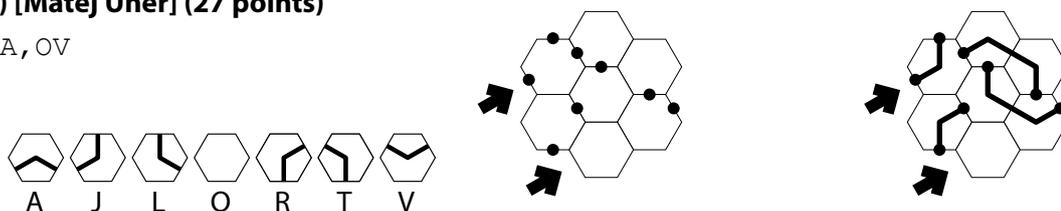
17. Yajilin (Hex) [Matej Uher] (37 points)

Example Answer: 30303



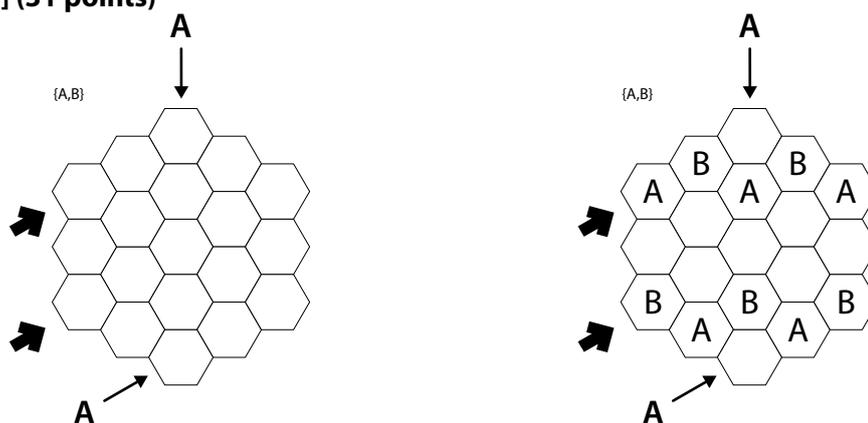
18. Endpoints (Hex) [Matej Uher] (27 points)

Example Answer: JA, OV



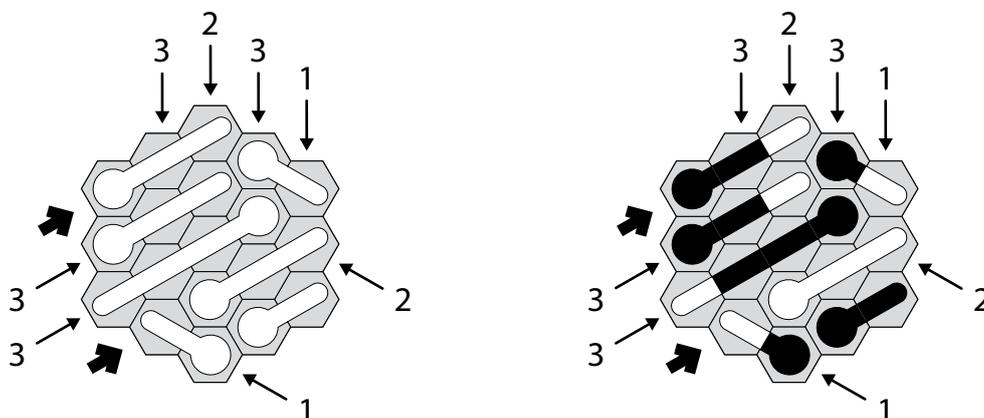
19. Easy As... (Hex) [Jan Novotný] (31 points)

Example Answer: ABX, BXXXXA



20. Thermometers (Hex) [Jan Novotný] (29 points)

Example Answer: OOX, XXXX (or XXO, OOOO)



21. Futoshiki (Hex) [Jan Novotný] (115 points)

Rule modification: X is the number of cells in the longest row, and it is permissible for some numbers to not appear at all in a row with fewer than X cells.

Example Answer: 3241, 153

