

WPF PUZZLE GP 2023 COMPETITION BOOKLET

Host Country: Slovakia

Matej Uher

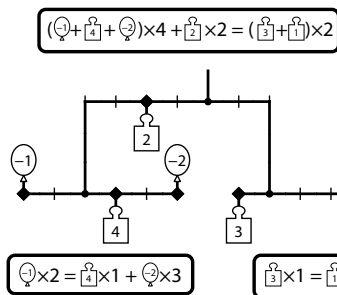
Special Notes: Point values are tentative and not finalized yet.

1-2. Balance (25, 19 points)

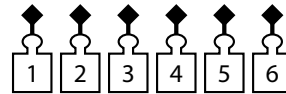
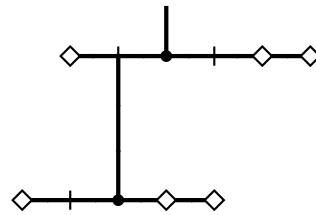
Attach the given weights (and balloons with negative weight, if given) to the mobile at the diamond-shaped attachment points, one at each point, such that the entire mobile balances — that is, at each fulcrum (round black dot), the total torque (weight multiplied by distance from the fulcrum) on both sides of the balance must be the same. Ignore the weight of the rods. Weights (or balloons) may already be attached for you.

Answer: Enter the weight of each attached item (including any that were attached for you), from left to right. Ignore the vertical position of each item. Use only the last digit for two-digit or negative numbers; e.g., use '0' for a weight of 10 and use '3' for a weight of -3.

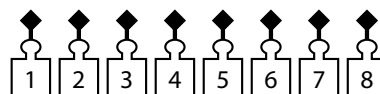
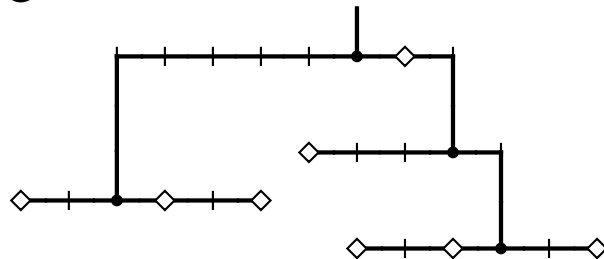
Example Answer: 142231



1



2

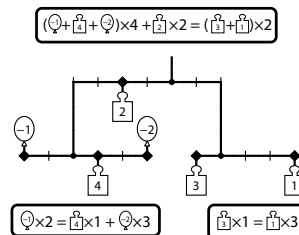




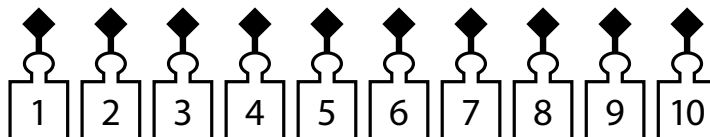
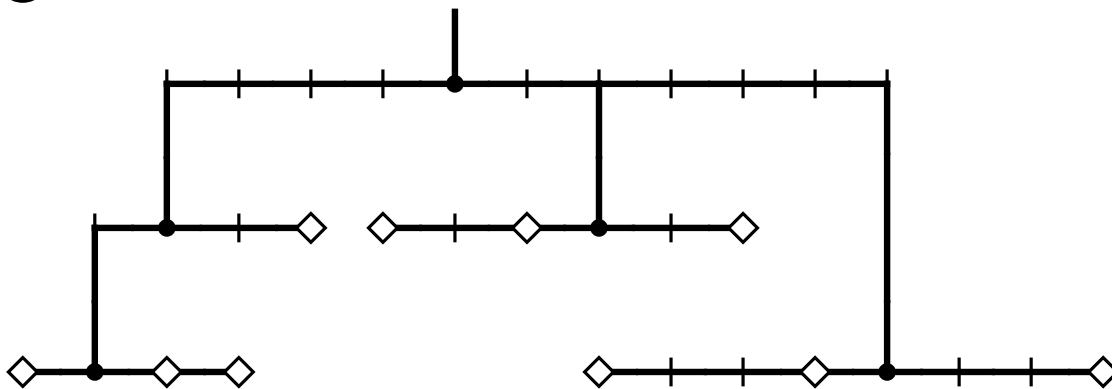
3. Balance (51 points)

Answer: Enter the weight of each attached item (including any that were attached for you), from left to right. Ignore the vertical position of each item. Use only the last digit for two-digit or negative numbers; e.g., use '0' for a weight of 10 and use '3' for a weight of -3.

Example Answer: 142231



3



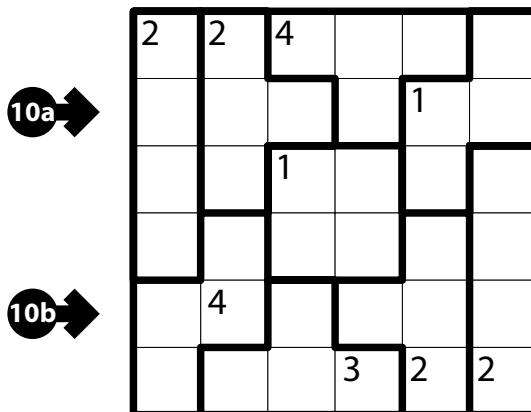
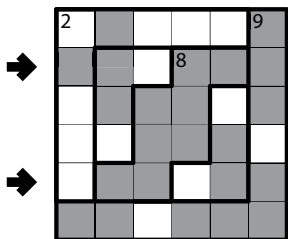


10-12. Aqre (11, 32, 62 points)

Shade some cells so that all shaded 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 is not a connection.) No 1×4 or 4×1 group of squares can be completely shaded. No 1×4 or 4×1 group of squares can be entirely unshaded. The grid is divided into regions by thick borders; a number in a region indicates exactly how many cells in that region must be shaded. (The location of the number in the region has no significance.)

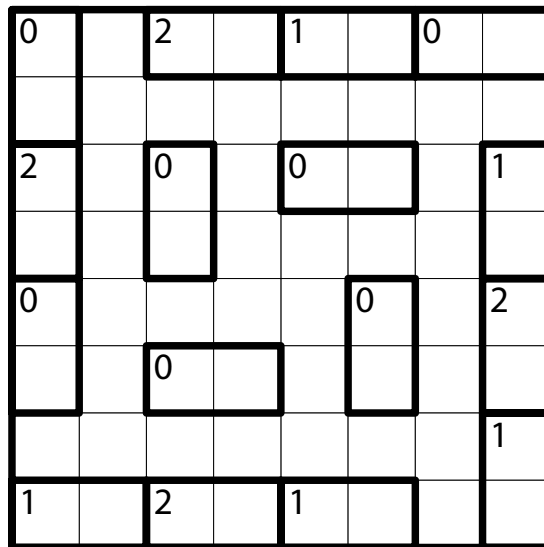
Answer: For each designated row, enter its contents from left to right. Use 'o' for a shaded cell and 'x' for an unshaded cell. You may use other letters or numbers, as long as they are distinct.

Example Answer: ooxooo, xooxoo



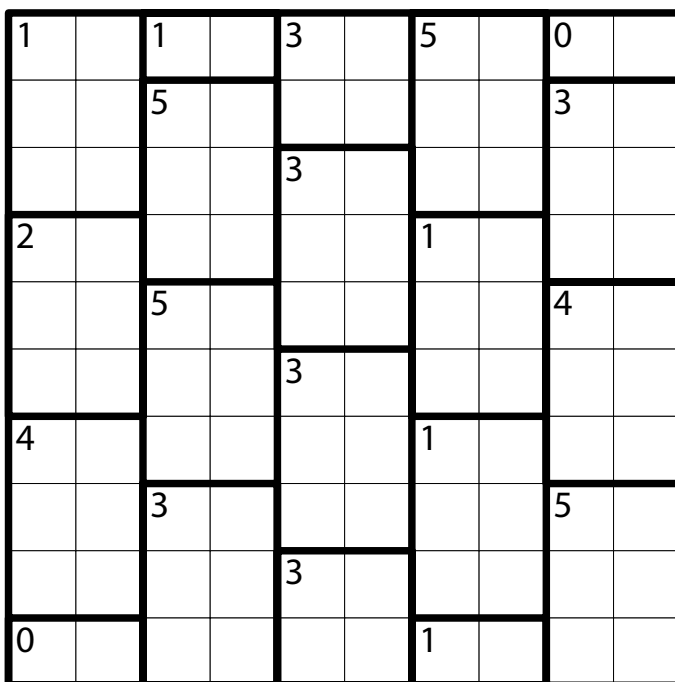
10a →

10b →



11a →

11b →



12a →

12b →

16-18. Kissing Polyominoes (13, 62, 28 points)

Shade some cells so that the shaded cells form the set of given shapes. Shapes can be rotated or reflected. If an edge is marked with a bar, then two shapes touch along that edge. If an edge is not marked with a bar, then two shapes do not touch along that edge (but both adjacent cells could be occupied by the same shape).

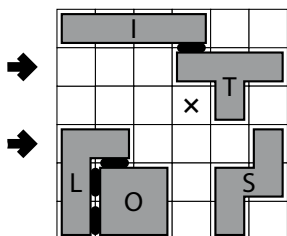
If a shape appears multiple times in the given set, then the same number of copies of that shape must appear in the grid.

Cells marked with a cross must not be shaded.

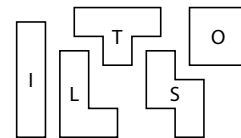
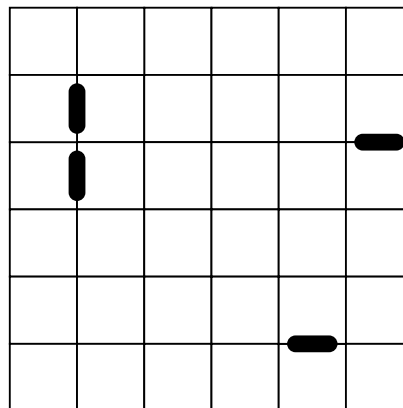
The letters for the shapes (as provided in the diagram) are only used for entering your answer.

Answer: For each designated row, enter the letter for the shape that each cell belongs to, from left to right. If a cell is unshaded, use 'X' for its letter.

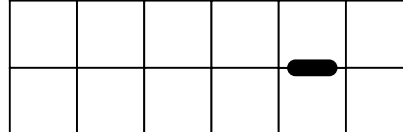
Example Answer: XXXTTT, LLXXXS



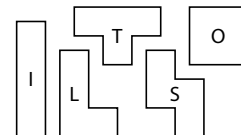
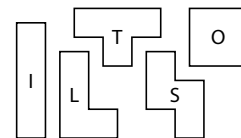
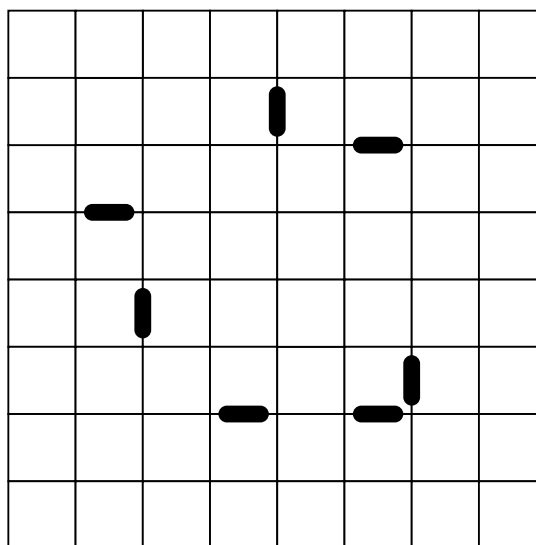
16a →



16b →



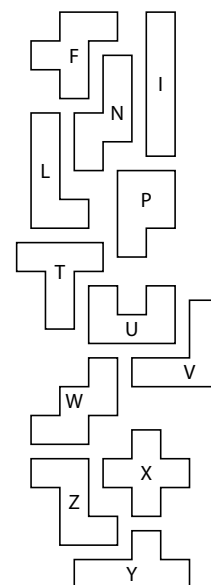
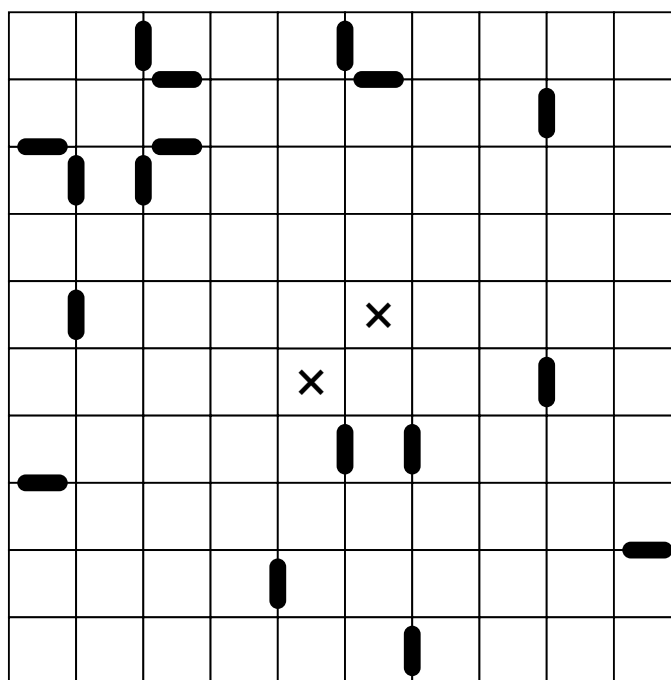
17a →



17b →



18a →



18b →

