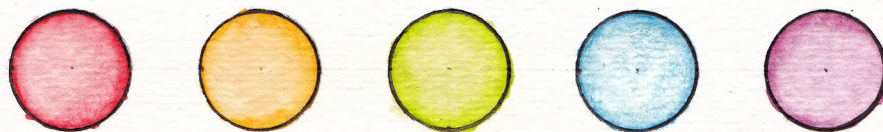
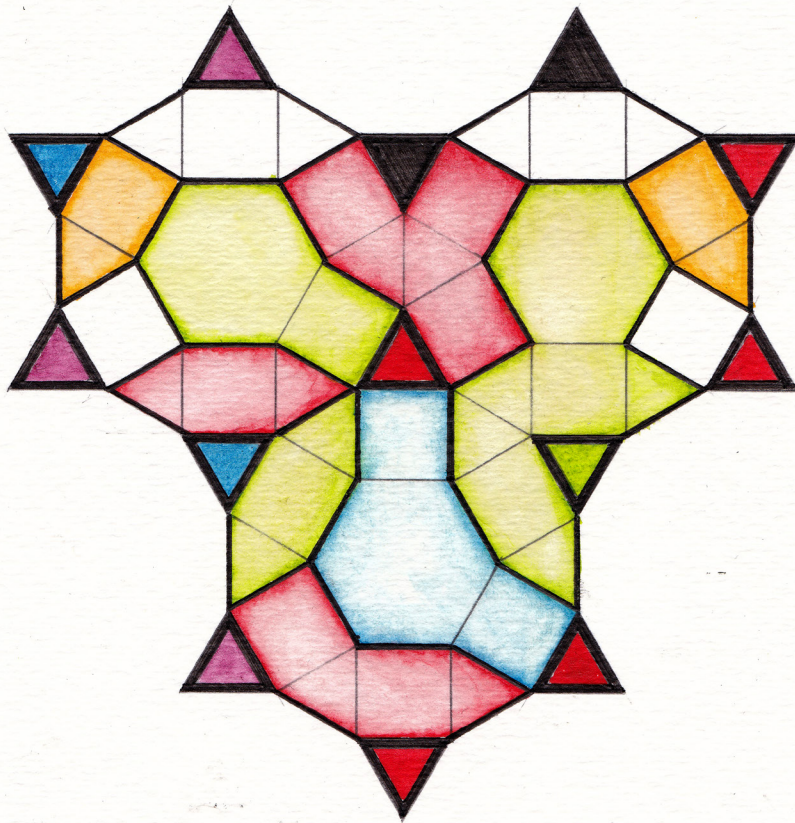


KALEIDOSCOPE



2 0 1 8

INSTRUCTIONS

THE COMPETITION WILL TAKE PLACE FROM
10/19/2018 TO 10/22/2018

AT

LOGIC MASTERS INDIA

[HTTP://LOGICMASTERSINDIA.COM/2018/10P](http://logicmastersindia.com/2018/10P)

THE DURATION WILL BE **120** MINUTES

TOTAL **500** POINTS

FINAL POINT DISTRIBUTION

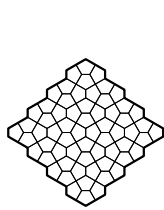
THE COMPETITION WILL USE
INSTANT GRADING

THANK YOU TO
TEST SOLVERS

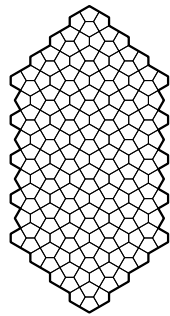
edderiofer
Joseph Howard
William Hu
Rakesh Rai

THE COMPETITION WILL CONTAIN

CAIRO PENTAGONAL KUROTTO

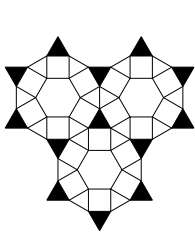


7 points

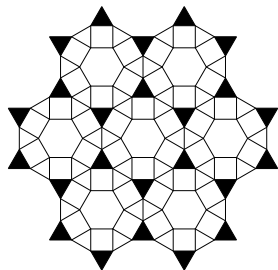


43 points

SUM STAR

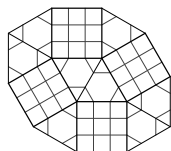


33 points

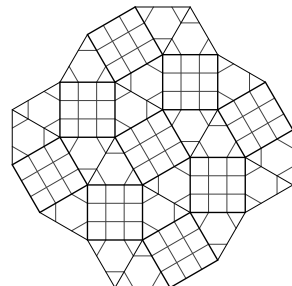


106 points

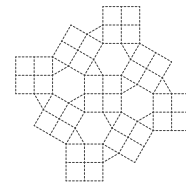
KROPKI SWITCH



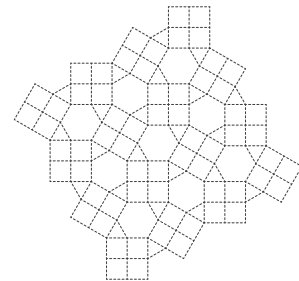
35 points



80 points



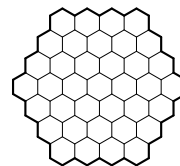
16 points



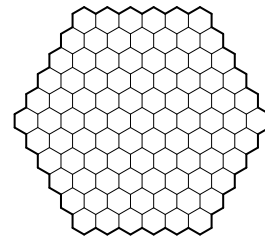
33 points

KARST

HEXAGONAL KUROCLONE

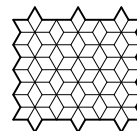


5 points

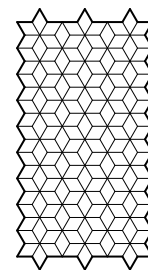


6 points

RHOMBILE TRANSPARENT TAPA LOOP

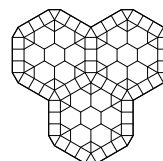


17 points

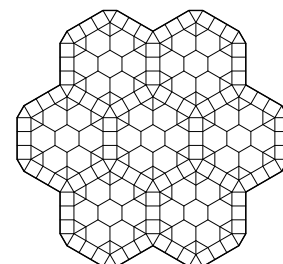


28 points

OMNI-YAJILIN



31 points



60 points

CAIRO PENTAGONAL KUROTTO

Standard Kurotto Rules. Shade some cells such that:

1. Each circled number in a cell denotes the total count of shaded cells in connected groups sharing an edge with that cell.
2. Cells with circles cannot be shaded.
3. Ignore black dots and dashed lines when solving.

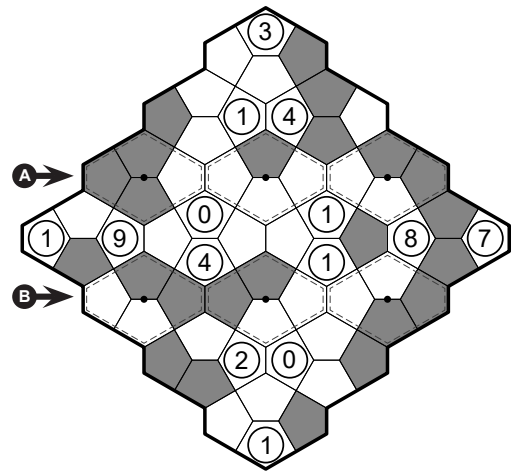
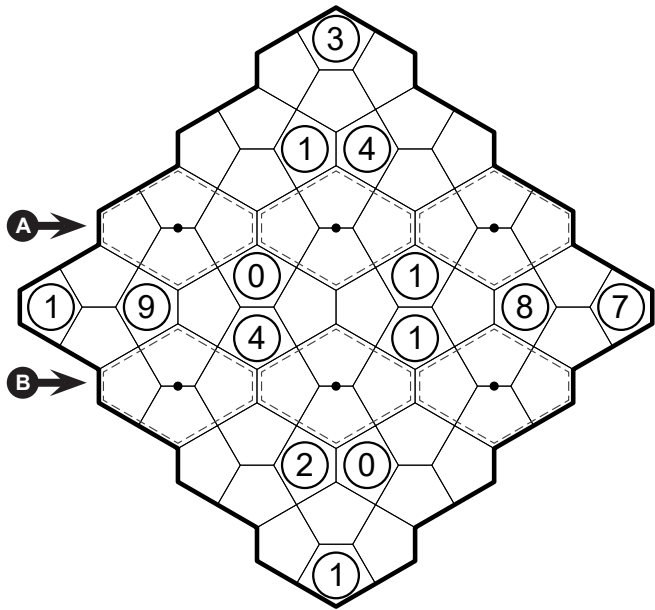
Answer String

In the line of cells indicated by an arrow, there are clusters of four cells joined by an inset hexagon of dashed lines and a black dot at the center. Report the number of shaded cells in each cluster.

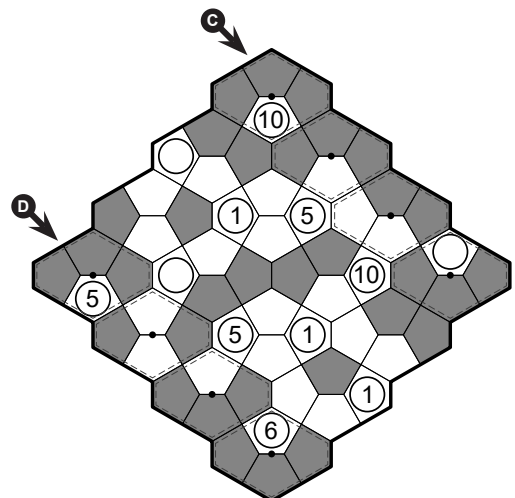
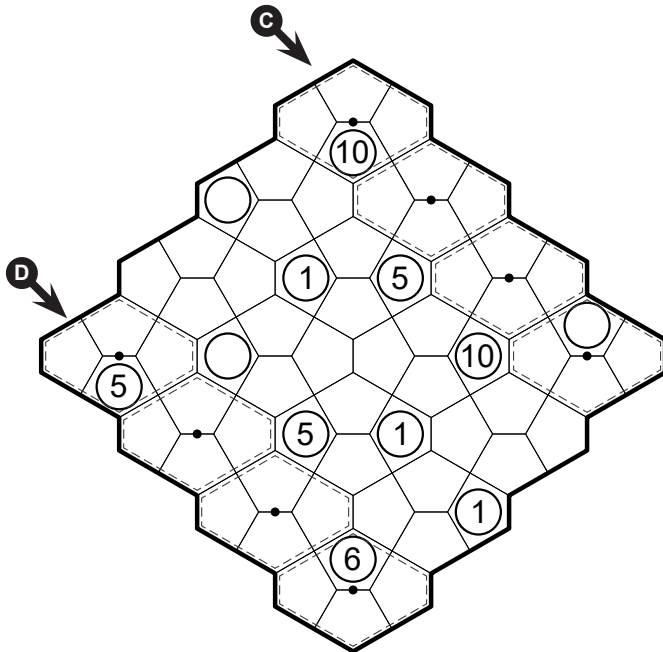
Answer string for the first example: 312,222

Answer string for the second example: 3323,3233

First Example



Second Example



SUM STAR

Fill cells with numbers and shade all remaining cells such that:

1. Each dodecagon contains the numbers 1-9 exactly once.
2. Numbers in cells sharing a vertex with a black triangle add up to the indicated clue number without repeats.
3. A shaded cell cannot share an edge with another shaded cell.

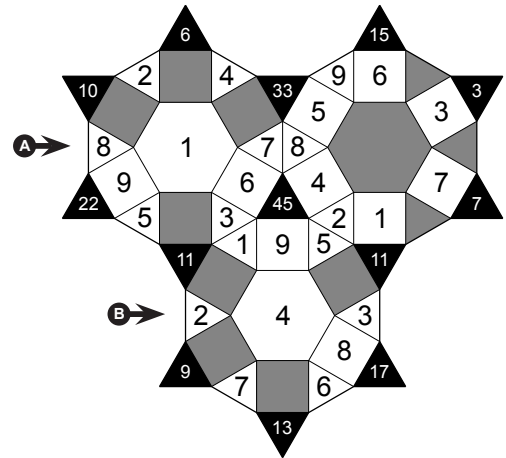
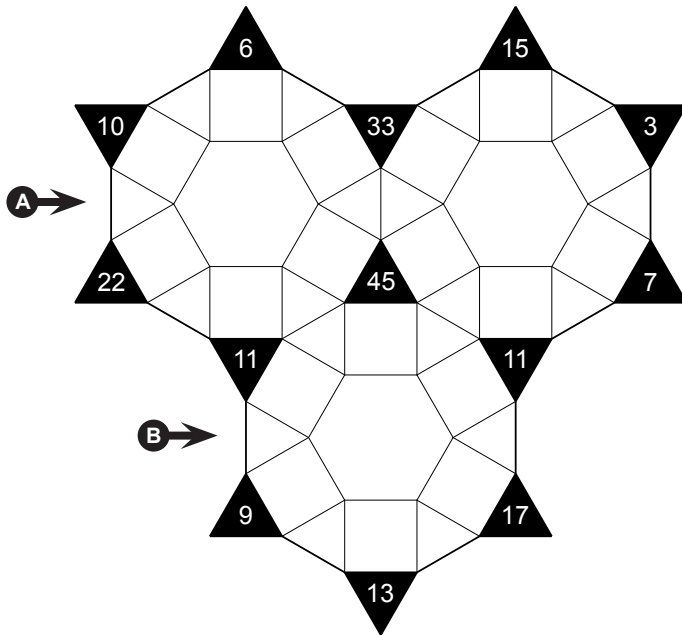
Answer String

Enter the digits in the marked central rows (triangle, hexagon, triangle, ...). Use a capital X for shaded cells.

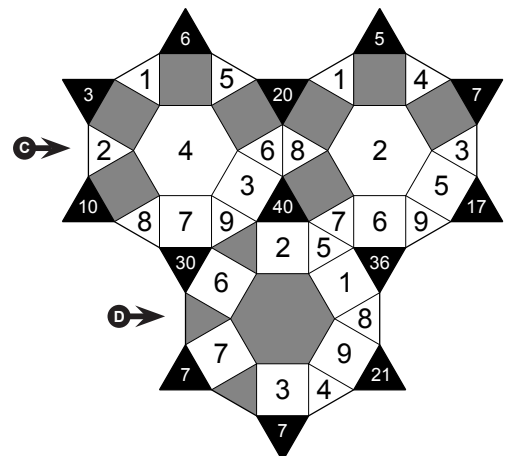
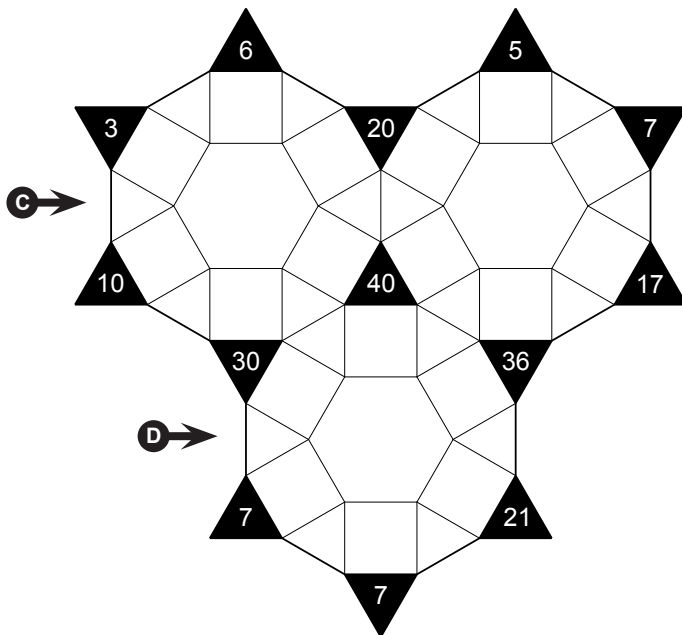
Answer string for the first example: 8178XX,243

Answer string for the second example: 246823,XX8

First Example

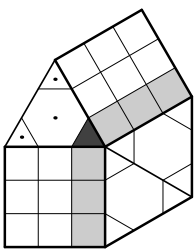


Second Example

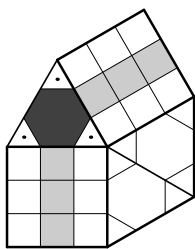


KROPKI SWITCH

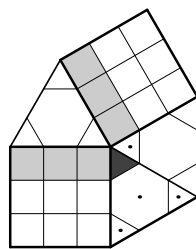
- Place the numbers 1-9 so that they appear exactly once in each 3x3 block of square cells.
- Standard Kropki rules apply to borders between square cells:
 - A black dot on the border between two square cells indicates that the ratio of those cells is exactly 2. A white dot on the border between two square cells indicates that the difference between those cells is exactly 1. A border between two square cells with no dot indicates that neither of these properties applies. (The border between "1" and "2" could have either a black or a white dot.)
- Between the 3x3 blocks of square cells are switches, which consist of 3 triangles and 1 hexagon. One and only one cell from each switch must be shaded. Shaded cells cannot share an edge.
- A switch relates triplets from different 3x3 blocks in the following three possible combinations: one triangle, one hexagon, or two triangles (see diagram below). If the switch cell (or one of the two cells in the case of two triangles) is shaded, both triplets must contain the same three numbers. If the cell (or both cells in the case of two triangles) is unshaded, the two triplets cannot contain any of the same numbers.
- If a switch cell containing a number is shaded, any triplets related to that cell must contain that number. If the cell is unshaded, any triplets related to that cell must not contain that number. In the case of two triangles, this rule applies with either triangle to both triplets.
- Ignore letters and arrows while solving.



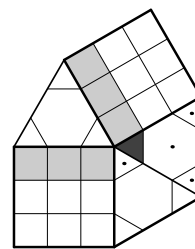
ONE TRIANGLE



ONE HEXAGON



OR



TWO TRIANGLES

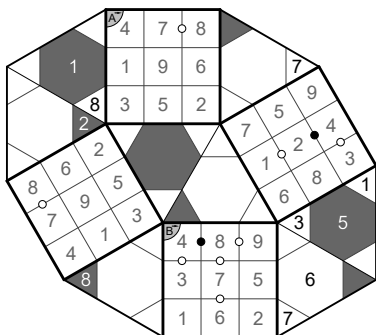
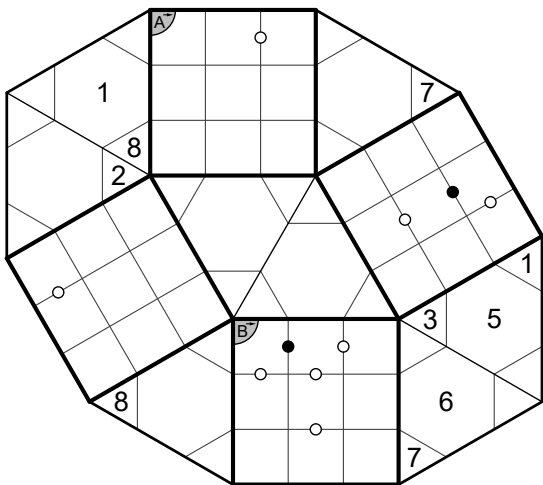
Answer String

Starting at each cell with a letter and an arrow, report the contents of the 3x3 block from left to right, top to bottom.

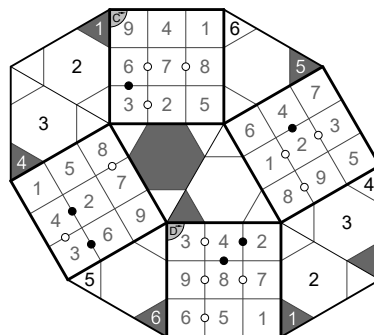
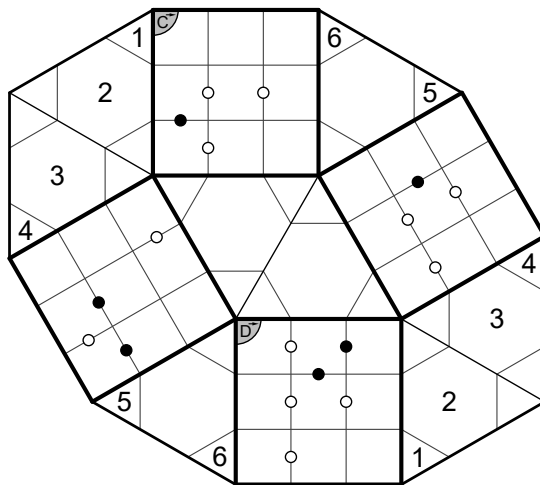
The answer string for the first example: 478196352,489375162

The answer string for the second example: 941678325,342987651

First Example



Second Example



KARST

Variant of Cave:

1. Draw a single loop along the dashed lines that encloses some cells. Edges of this loop may not cross or share a vertex.
2. Numbers indicate the number of connected cells from all lines of sight radiating from that cell, including the cell itself. Numbers can be inside or outside of the loop. Lines of sight end on either the edge of the grid, the edge of the loop, or at a triangular cell, counting that cell.

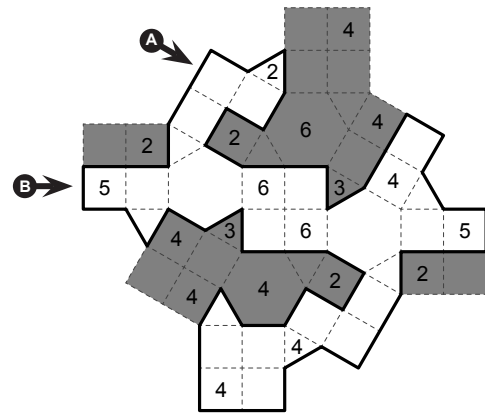
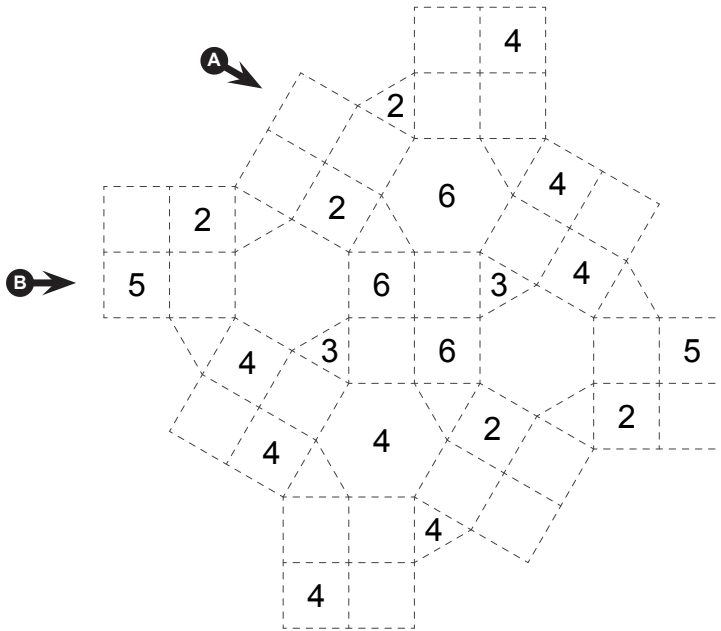
Answer String

For the indicated range of cells starting at the arrow and ending in a triangular cell, report the lengths of groups of cells connected either inside or outside the loop.

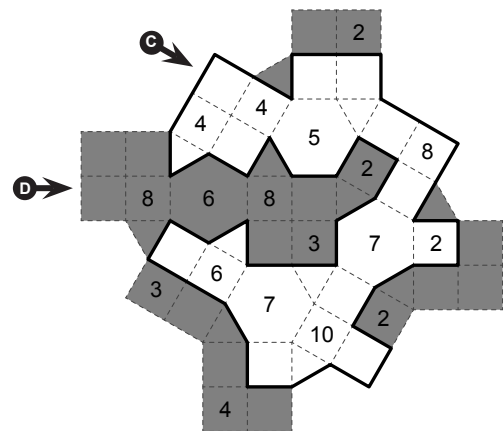
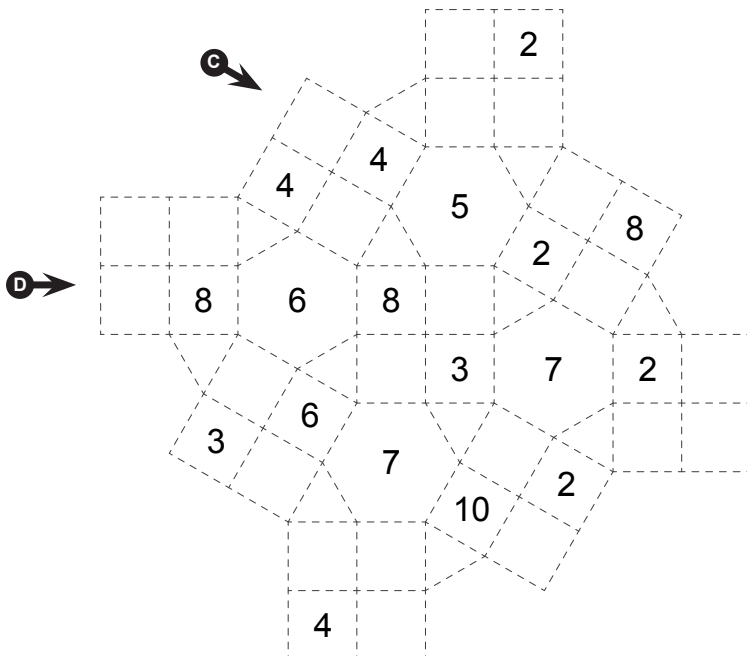
The answer string for the first example: 222,51

The answer string for the second example: 3111,6

First Example



Second Example



HEXAGONAL KUROCLONE

Shade some cells such that:

1. Bold-outlined regions contain exactly two shapes, made up of contiguous groups of 1 or more shaded cells. Within a region, the two shapes must be congruent, allowing reflection and rotation.
2. A shape cannot share an edge with another shape, even across thick borders.
3. Cells with arrows, which cannot be shaded, point to a neighboring cell, which must be shaded and part of a shape consisting of the given number of cells.

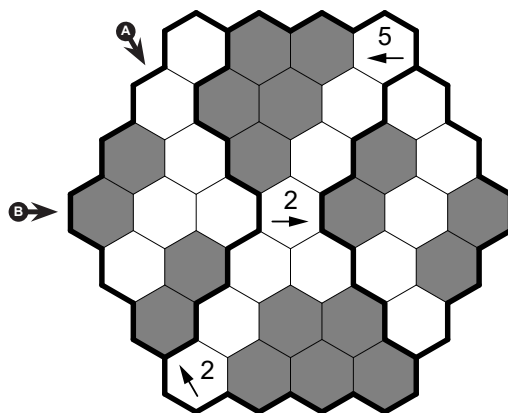
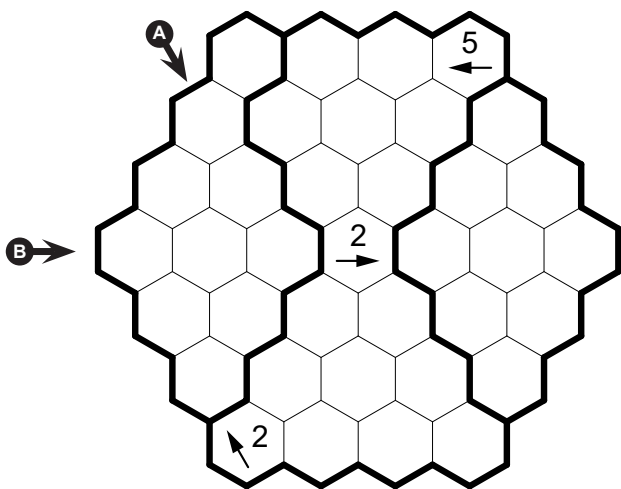
Answer String

Report the lengths of connected groups of shaded and unshaded cells. Cells with arrows count as unshaded.

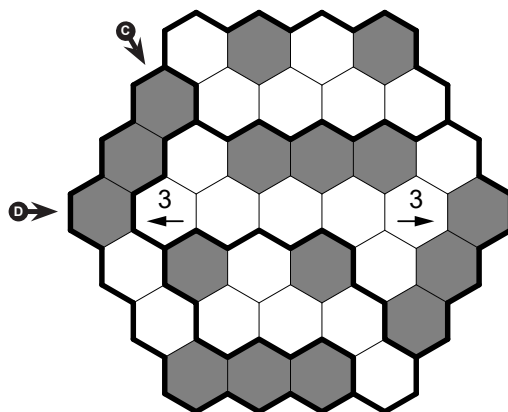
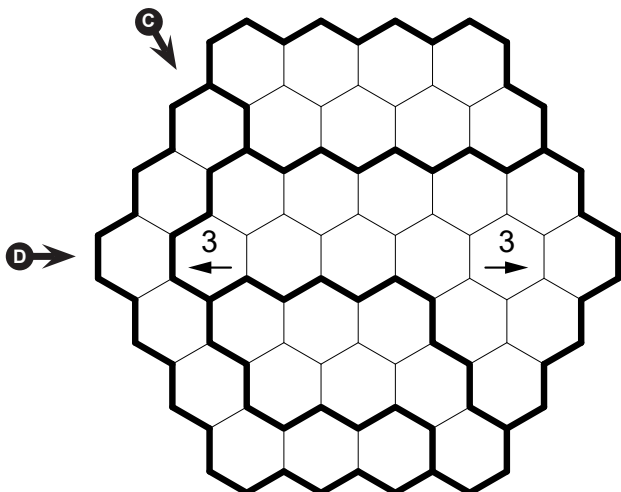
The answer string for the first example: 42,13111

The answer string for the second example: 141.151

First Example



Second Example



RHOMBILE TRANSPARENT TAPA LOOP

Shade some cells such that:

1. For any cell with one or more numerical clues, shaded cells form connected groups of the indicated size within the group of cells sharing a vertex with the clued cell. Cells with clues **can** be shaded. Clues within shaded cells remain valid.
2. Every interior vertex (not on the edge of the grid) must touch at least one unshaded cell.
3. Shaded cells must form a single loop.

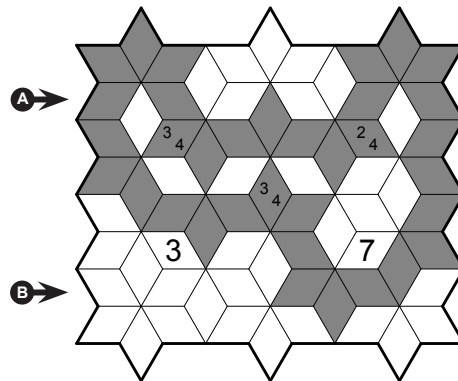
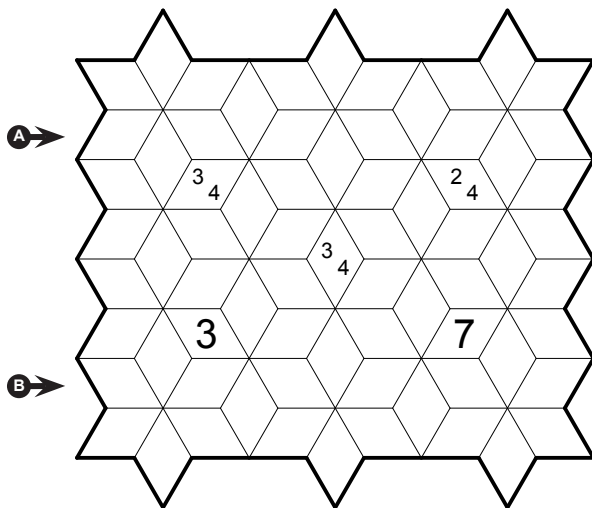
Answer String

For each line of cells indicated by an arrow, report the lengths of connected groups of cells, shaded or unshaded.

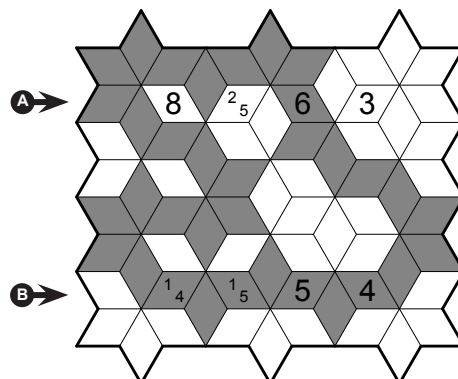
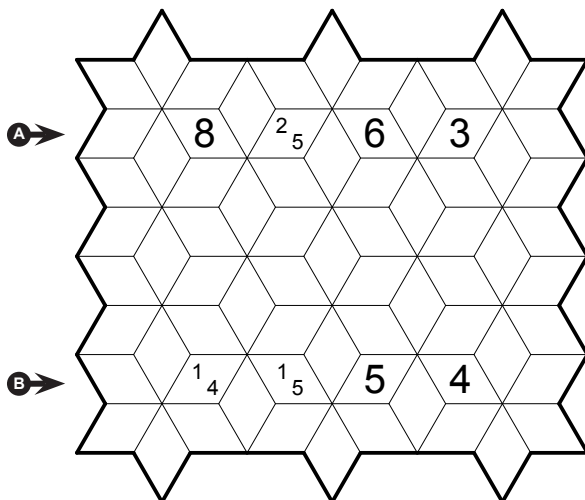
The answer string for the first example: 111212111,641

The answer string for the second example: 211214,191

First Example



Second Example



OMNI-YAJILIN

Shade some cells and draw a loop in remaining cells such that:

1. Every empty cell is either shaded or part of a single loop that does not branch or intersect.
2. Numbers in some cells indicate the total number of shaded cells that can be seen in all directions from that cell. Lines of sight run perpendicular to the edges of a cell and terminate on the edge of the grid or at a triangular cell, counting that cell.4
3. Shaded cells cannot share an edge.

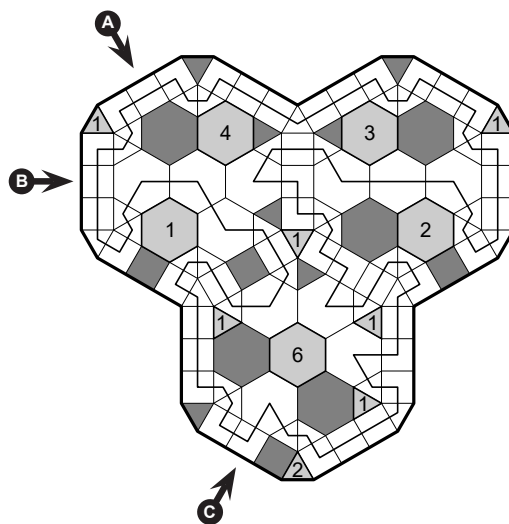
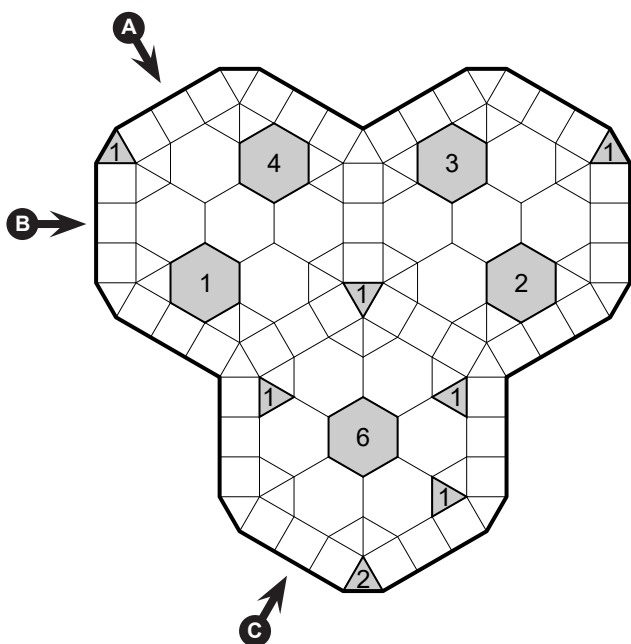
Answer String

In each line of cells indicated by an arrow, report the number of cells in which the loop turns. If the number is 10 or greater, report only the last digit.

The answer string for the first example: 3,6,4

The answer string for the second example: 4,5,3

First Example



Second Example

