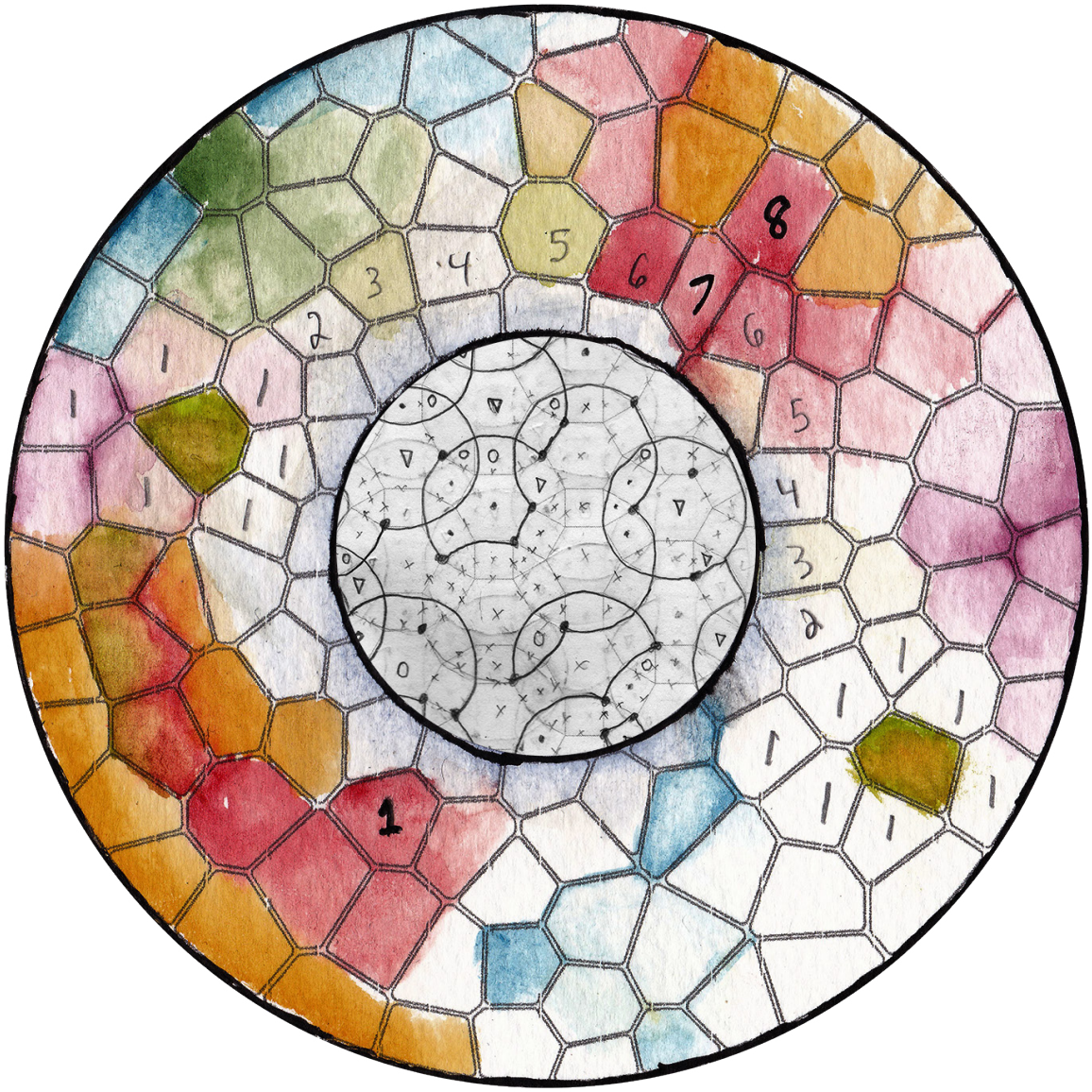


Kaleidoscope

Instructions

A collection of puzzles on nonrectangular grids | Written for Logic Masters India | Summer 2016 | Dan Adams | puzzles.paramesis.com

The Competition will take place from

09/16/2016 to 09/19/2016

at

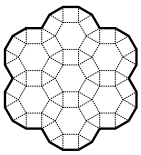
Logic Masters India

http://logicmastersindia.com/2016/09P/

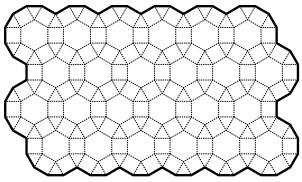
The Duration will be 120 minutes

The Test Booklet Will Contain

Rhombitrihexagonal Yagit

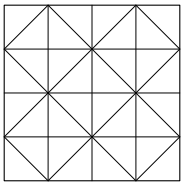


20 points

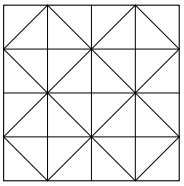


34 points

Killer Tetrakis Square

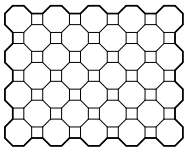


14 points

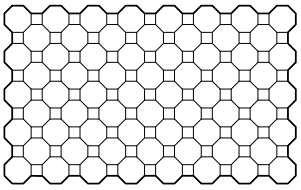


27 points

Truncated Square Chocona

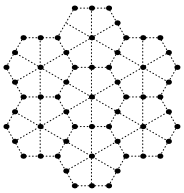


12 points

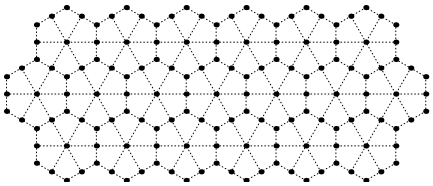


30 points

Deltoidal Trihexagonal Tree

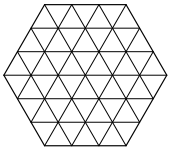


9 points

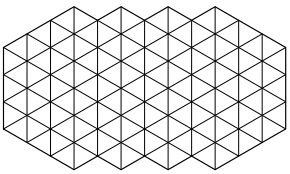


48 points

Trapezoids

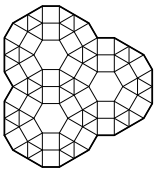


16 points

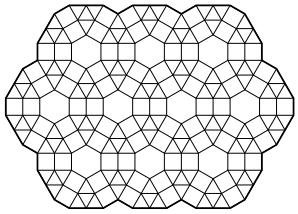


49 points

Proximity Snake



6 points

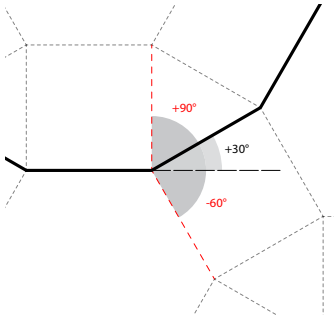


30 points

Rhombitrihexagonal Yagit

Here is a field of sheep and wolves, represented by circles and triangles. Draw some fences to divide the field into regions such that:

1. Each region contains at least one sheep or one wolf, but not both. No region can be empty.
2. Two fence segments meeting at a vertex cannot form an angle less than 150 degrees, equivalent to a turn of 30 degrees, unless it has a black dot (see diagram to the right).
3. Black dots indicate vertices where the fence may turn in any direction. It is not required that a fence cross every black dot.
4. Fences may not branch, but may intersect at any vertex, except the ones with black dots. Note the 3 intersecting fences in the first example, with the middle fence shown as a red dotted line.
5. Fences must start and stop at the edge of the field.



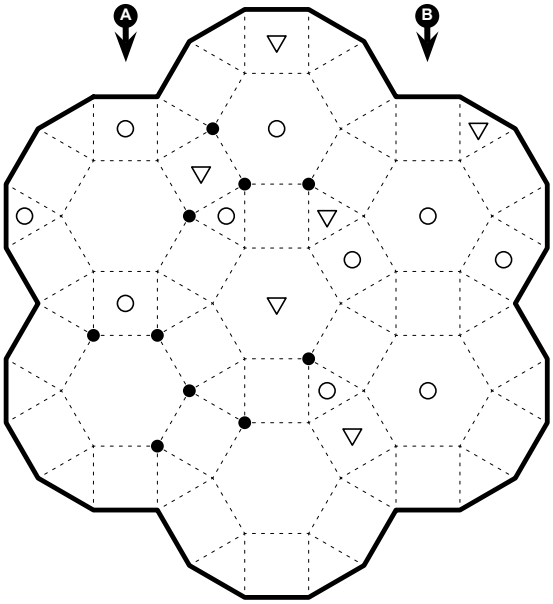
Answer String

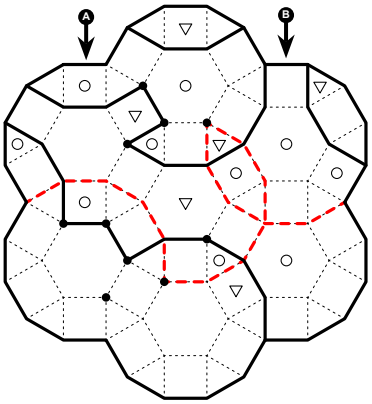
For each cell in the line of cells indicated by an arrow, report the number of cells between each fence segment. If the length of a line of cells is greater than 9, use only the units place (0 for 10, for example).

The answer string for the first example: 1112,32

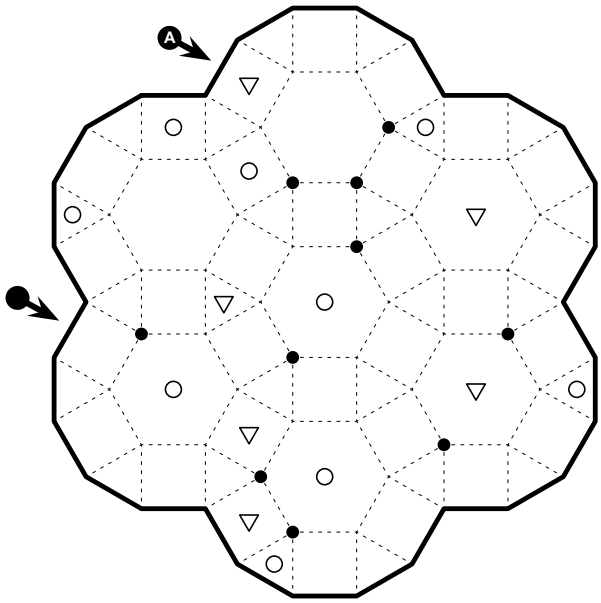
The answer string for the second example: 113,212

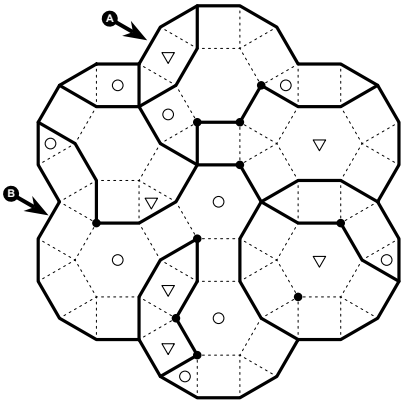
First Example





Second Example





Truncated Square Chocona

A field is divided into bold-outlined regions. Shade some cells such that:

1. A filled square may not share an edge with a filled octagon.
2. Filled octagons may share an edge, but only if the contiguous area of filled octagons forms a 45° oriented rectangle.
3. Each bold-outlined region must have at least one filled octagon.
4. Numbers indicate exactly how many cells, octagon or square, are filled in a bold-outlined region. Regions with no number can have any number of filled cells.

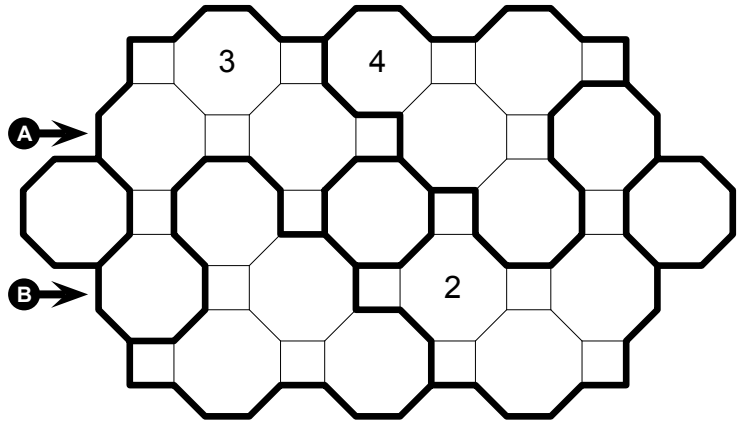
Answer String

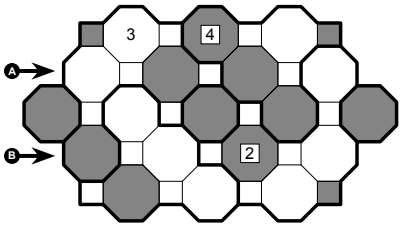
For each line of cells indicated by an arrow, report the lengths of connected groups of cells, filled or unfilled. If a connected group has greater than 9 cells, use only the units place (0 for 10, for example).

The answer string for the first example: 21112,1312

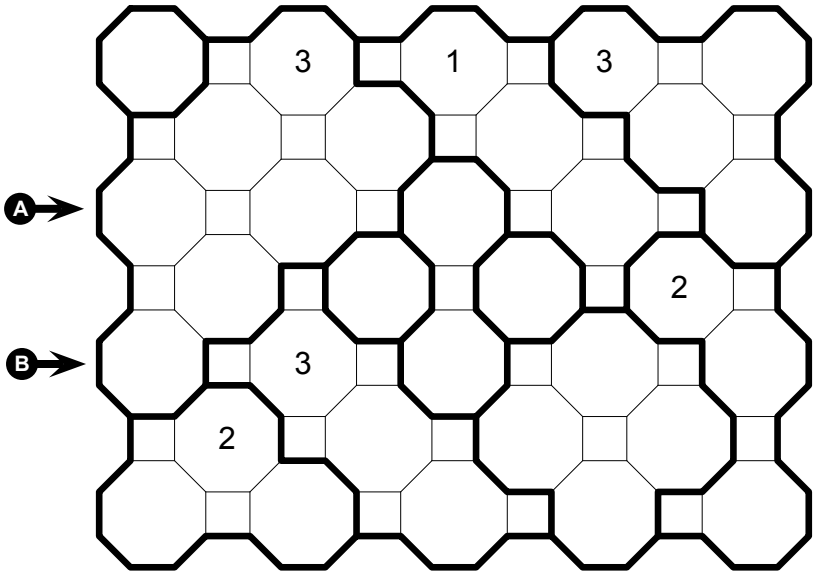
The answer string for the second example: 112131,21114

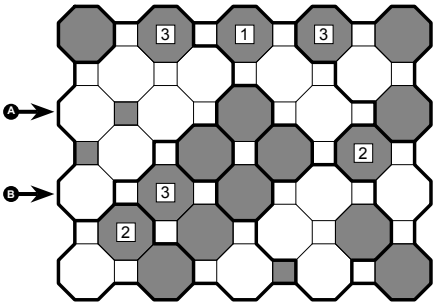
First Example





Second Example





TRAPEZOIDS

Shade some cells such that:

1. Numbers indicate exactly how many surrounding cells are filled.
2. Filled cells must be in clusters of 3, forming trapezoids. A trapezoid may not share an edge with another trapezoid.
3. All unfilled cells are connected edge-to-edge.

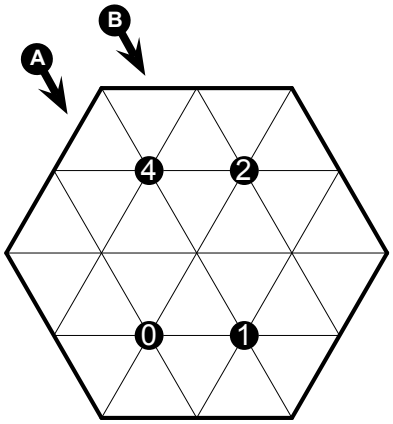
Answer String

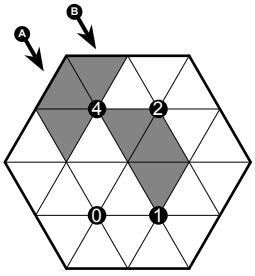
For each line of cells indicated by an arrow, report the lengths of connected groups of cells, filled or unfilled. If a connected group has greater than 9 cells, use only the units place (0 for 10, for example).

The answer string for the first example: 25,1132

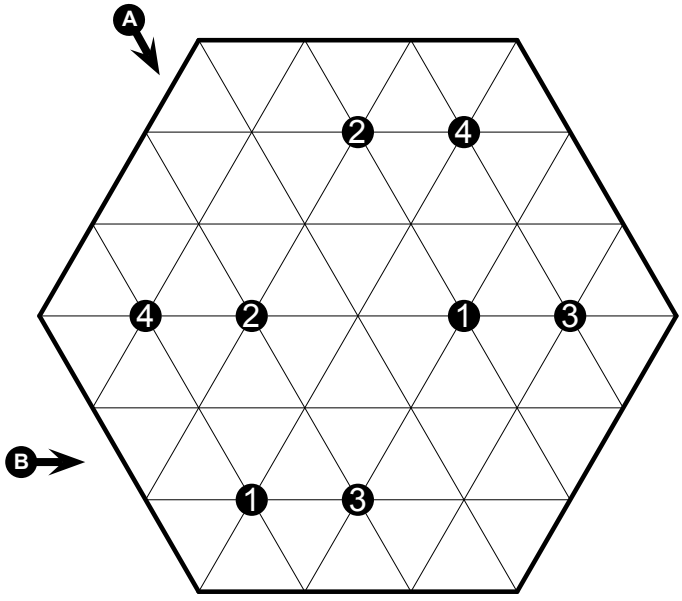
The answer string for the second example: 821,21213

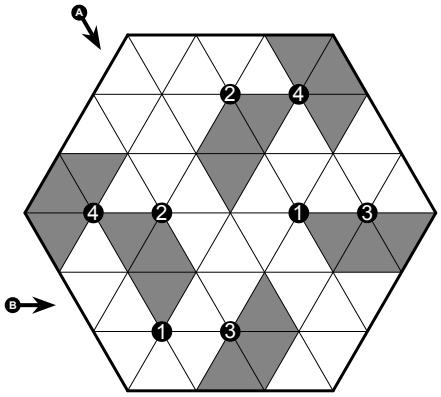
First Example





Second Example





Killer Tetrakis Square

Fill numbers into the grid of 4 rows and 4 columns of 8 cells each such that:

1. Every row and column contains each integer from 1 to 8 exactly once.
2. Cages, represented by dotted lines, indicate a sum to which all included cells must add.
3. Numbers may not repeat within a cage
4. Each number must appear exactly once in each of the four triangle orientations (pointing NE, NW, SE, SW) All of the "1" cells are highlighted in the first example answer to demonstrate this.

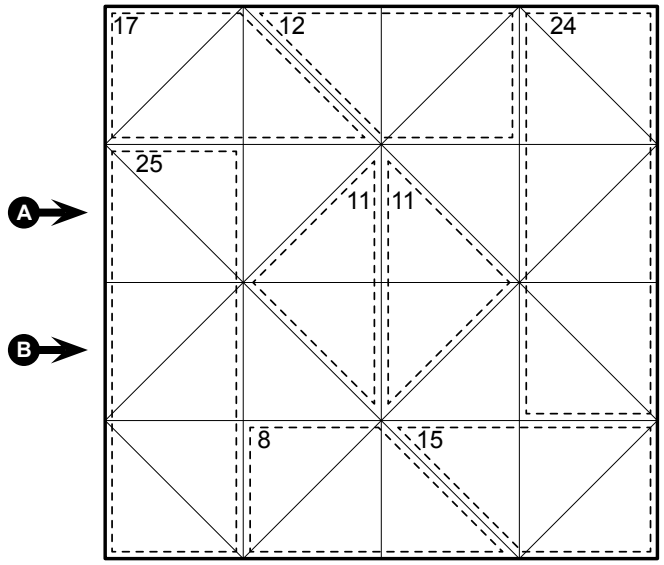
Answer String

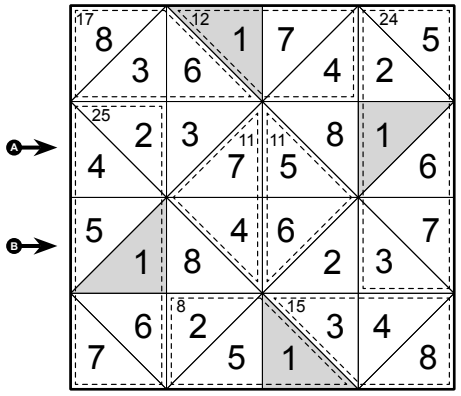
For each row indicated by an arrow, report the contents of each cell.

The answer string for the first example: 42375816,51846237

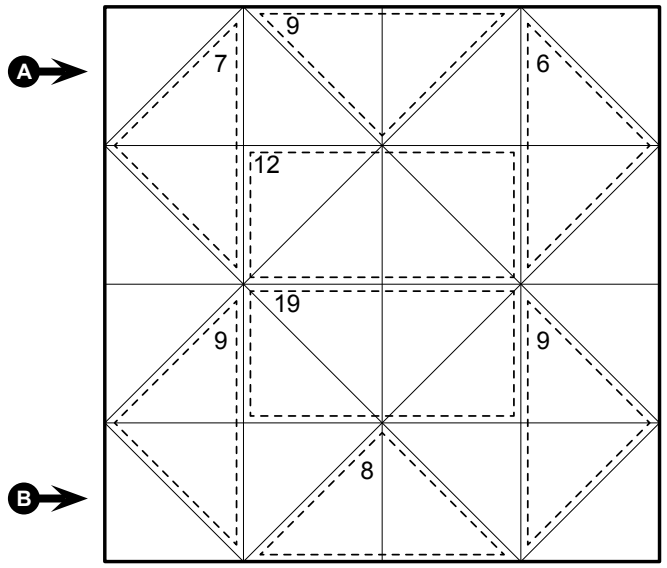
The answer string for the second example: 63754812,57862134

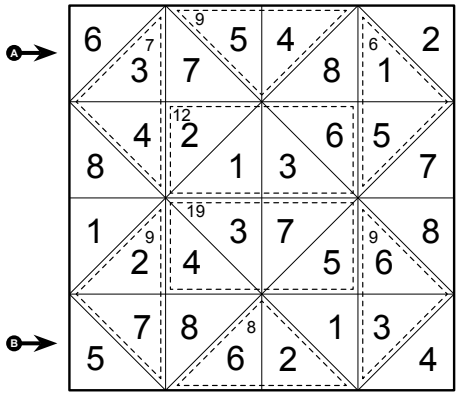
First Example





Second Example





Deltoidal Trihexagonal Tree

Draw segments to create a network such that:

1. Every vertex • and node O is connected.
2. Vertices must connect to exactly two path segments. Every branch of the network must be a path from one node to another.
3. Numbers indicate the sum of the lengths of every branch directly connected to that node, in segments.
4. The network is acyclic - there are no loops.

Ignore letters when solving.

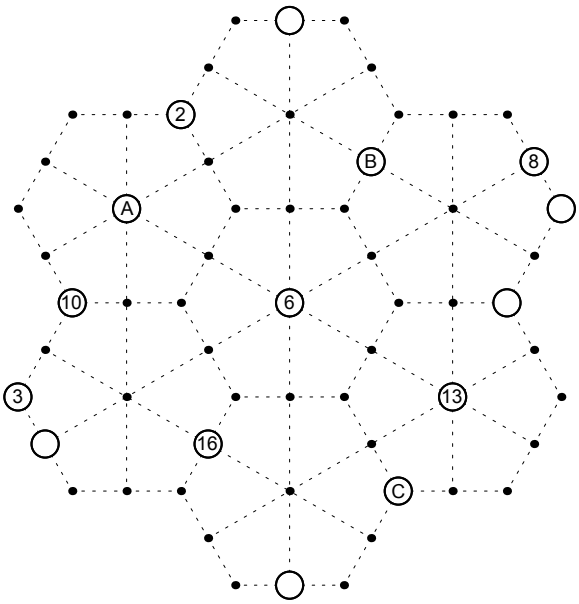
Answer String

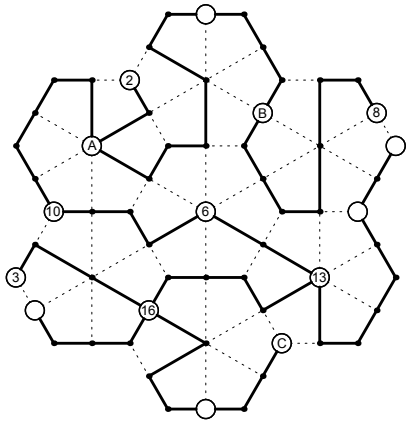
For each node marked with a letter, report the sum of the lengths of every branch directly connected to that node, in segments. If a node has greater than 9 segments, report only the units place.

The answer string for the first example: 5,2,3

The answer string for the second example: 5,6,5,6

First Example





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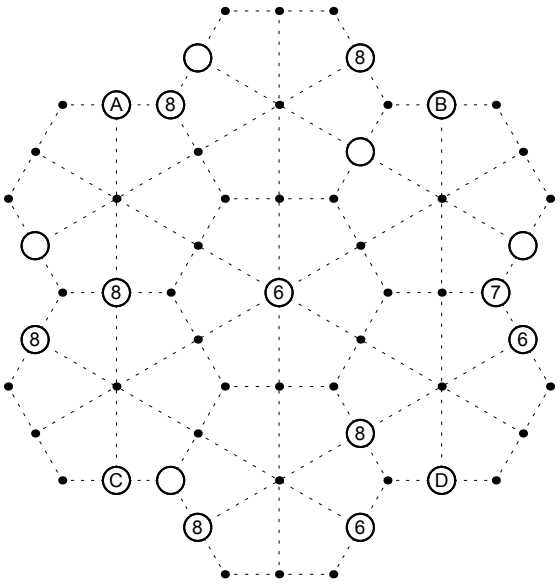
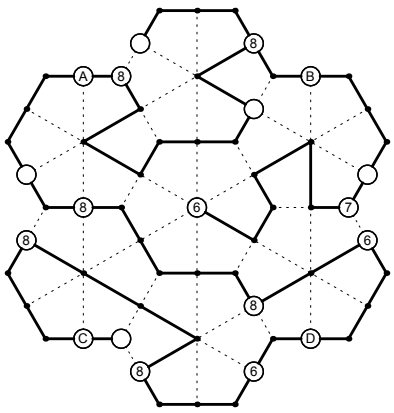




Proximity Snake

Draw a snake through cells between the two given ends such that:

1. The snake does not branch or cross itself.
2. The snake does not touch itself on an edge. If two cells that share an edge are part of the snake, the snake must be passing through that edge. The snake can touch itself on a vertex ("diagonally").
3. Numbers in certain cells indicate how many of the cells that share a vertex with the numbered cell are occupied by the snake. The snake cannot pass through numbers.

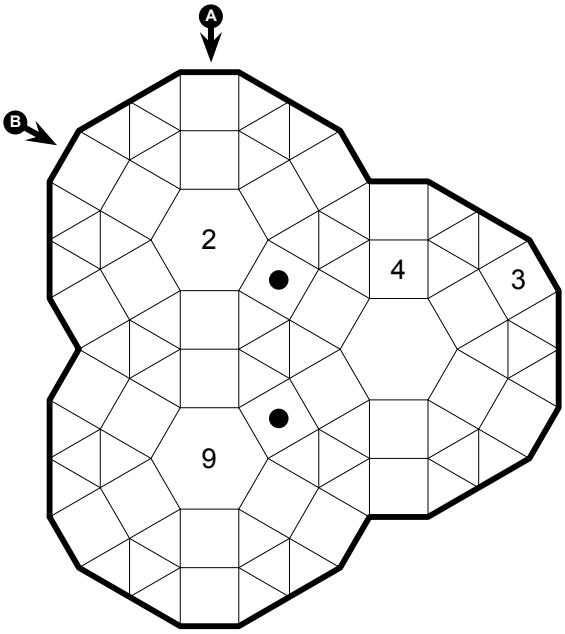
Answer String

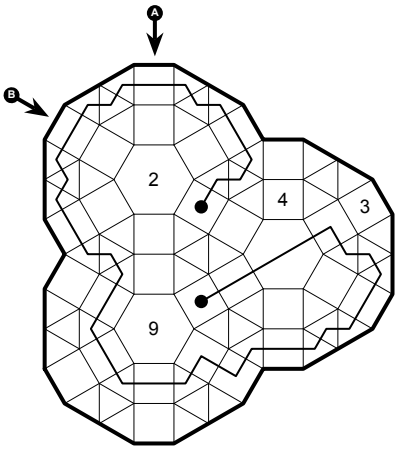
For each line of cells indicated by an arrow, report the lengths of connected groups of cells, occupied by the snake or not. Numbers count with cells not occupied by the snake. If a connected group has greater than 9 cells, use only the units place (0 for 10, for example).

The answer string for the first example: 1511,1211111

The answer string for the second example: 113111,11231

First Example





Second Example