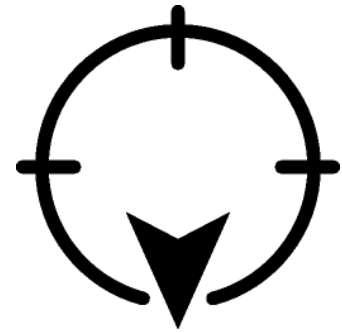


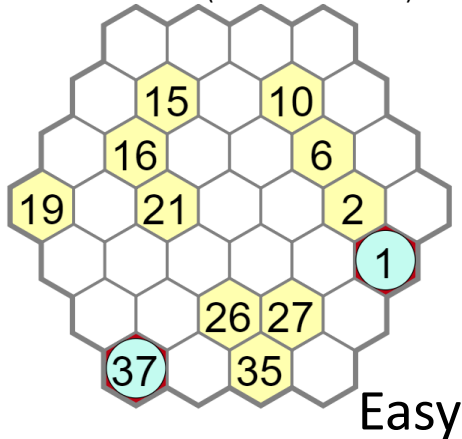
# The South

#2

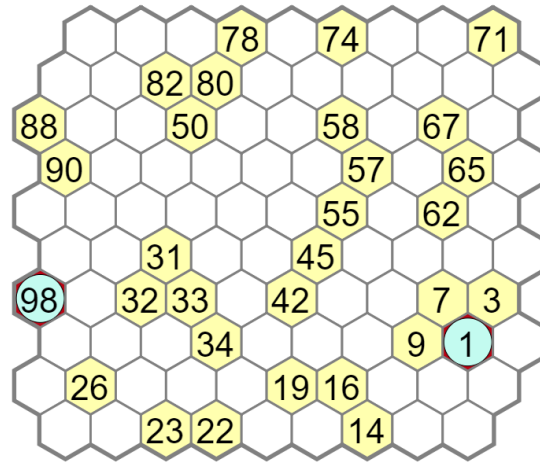


## HIDATO

Each Hidato grid is partially filled with numbers. The aim is to complete the grid with consecutive numbers in adjacent hexagons. So there should be a chain from 1 (in the circle) to the last number (in the other circle).



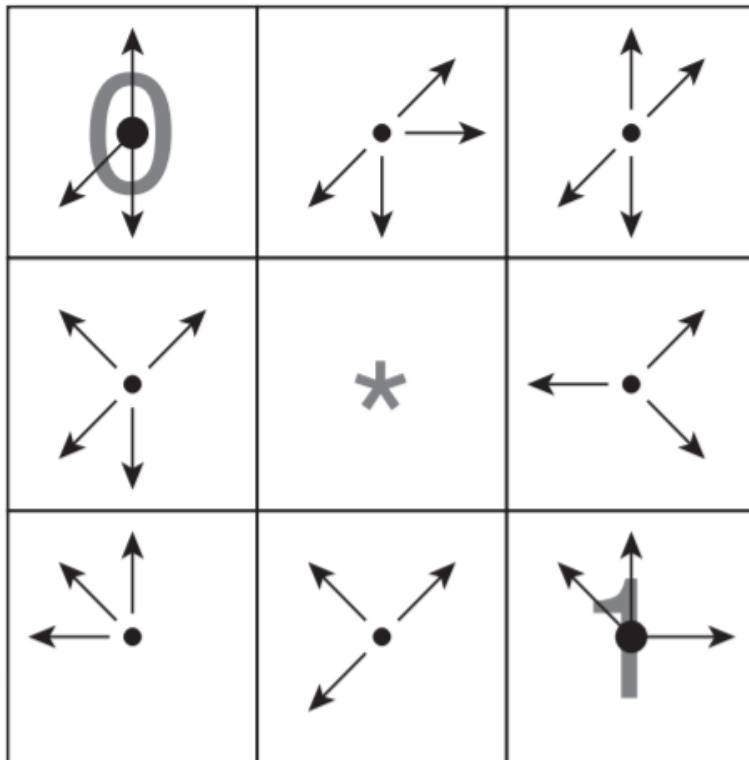
Easy



Hard

### Hidato Tips

- Tip #1: Each puzzle has only one solution.
- Tip #2: Hidato puzzles can be solved using 100 percent logic. No guesswork is needed.
- Tip #3: The first and last numbers of a puzzle are circled.
- Tip #4: It is not necessary to start from the first number. Sometimes it is better to start elsewhere.
- Tip #5: Working backwards (counting down in numbers) can reveal key clues to solving the puzzle
- Tip #6: Use a pencil and rubber!



### CoRoutine Puzzle

The grid on the left is a maze, solved collaboratively by two pennies. The goal: Move either penny to the center square. Start by placing pennies on the squares marked 0 and 1. The pennies take turns moving, starting with the coin at 0. Each moves (if possible) in any of the directions indicated under the opposite coin. Pennies may not move off the board. They may not share the same square. Pennies that cannot move must pass.

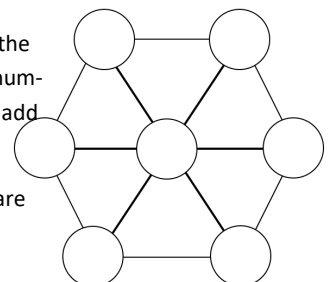
Thanks to Duane Bailey

<http://www.cs.williams.edu/~bailey/>

### MAGIC WHEEL

Fit the digits 1-7 into the circles, so that the 3 numbers in each diagonal add up to the same total.

How many solutions are there?



Suppose that  $a$ ,  $b$ ,  $c$  and  $d$  are four different integers.

Explain why  $(a - b)(a - c)(a - d)(b - c)(b - d)(c - d)$  must be a multiple of 12.