

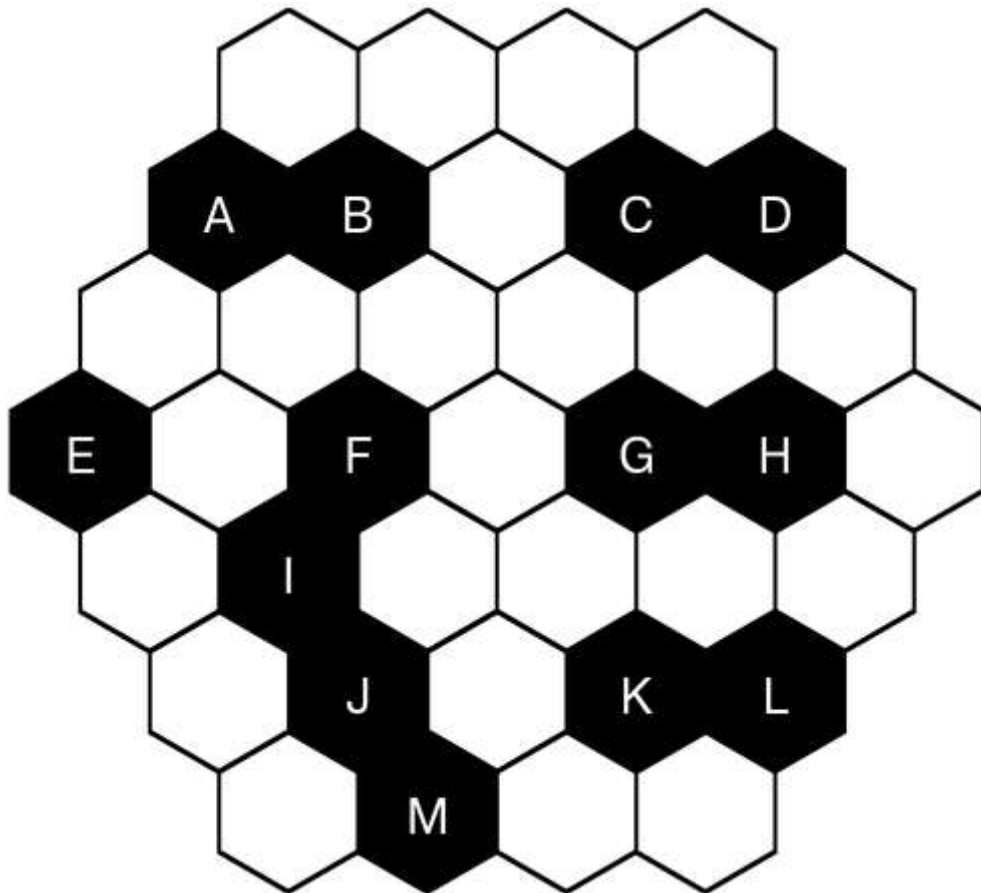
# Conqueror 4

## Rules

Look at the hexagonal grid overleaf which has two types of cells - clues (black) and answers (empty). Your job is to use the clues provided to fill in the answers according to these rules:

- Every answer must be a whole number between 1 and 50 (inclusive) and no number appears more than once. Since there are fewer than 50 answers, not every number from 1 to 50 will appear, and the smallest and largest number that appear may not be 1 and 50.
- Each clue is a reference to all of the answers adjacent to it, i.e. the empty cells touching it. Some clues may reference other clue cells. When a clue cell is referenced by another clue it will appear in bold underline, e.g. **A**
- The solution to the puzzle is unique; i.e. there is precisely one possible solution
- Here are some examples:
  - If clue A is “Sum is 36. All prime” this means that all of the answers adjacent to clue A sum to 36 and that they are all prime numbers.
  - Then if clue B is “Sum is 2 or 3 times **A**” This means that the answers adjacent to clue B sum to 2 or 3 times whatever the sum of the answers adjacent to A. In this case we know this is 36, so the answers adjacent to 2 add up to either 72 or 108.

**WARNING:** This puzzle is difficult! To complete it a solver will need to have good maths skills and be very persistent. Knowing about prime factorisation is essential, and knowledge of modular arithmetic is helpful. A pen and extra paper is advised.



1 2 3 4 5 6 7 8 9 10  
11 12 13 14 15 16 17 18 19 20  
21 22 23 24 25 26 27 28 29 30  
31 32 33 34 35 36 37 38 39 40  
41 42 43 44 45 46 47 48 49 50

### Clues

- A. Sums to a single digit number.
- B. None of these are squares.
- C. Consecutive.
- D. Product is twice a square.
- E. Product ends in 5.
- F. Sums to 3 times the value of the largest multiple of 9 that appears in the grid.
- G. Product is the same as at **H**.
- H. Only use the digits 1 and 4.
- I. Sums to 11 times sum at **E**.
- J. All divisible by 7.
- K. Product ends in 000.
- L. When written in ascending order, a palindromic sequence of digits is formed.
- M. Sum is a square.