## SEPTEMBER

$\stackrel{\text { A }}{\mathrm{G}} \mathrm{I}$
by Riad Khanmagomedov


## 1. EVEN ODD MAGIC

Fill the grid with digits from 1 to 9 . Each row, column and two main diagonals should contain different digits. All digits with the same parity are divided by bold edge. Bold edges form the area: the number in area is a products of all digits in this area. Digits can repeat within bold areas as long as other rules are followed.


Write digits from 0 to 6 into the circles. Each row and column should contain every digit exactly once. Digits of one chain should be different and form consecutive sequence in arbitrary order.


## 3. EASY AS SUM

Fill the grid with digits from 1 to 6 so that every row and column contain each digit exactly once, 1 cell is empty. Numbers at right and top show the sum of first and last digits in corresponding row or column (first from both directions). Numbers at left and bottom show the sum of second and fifth digits (second from both directions).

|  | 9 | 10 | 6 | 7 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\Delta \rightarrow$ |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 11 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| B $\rightarrow$ |  |  |  |  |  |
|  |  |  |  |  |  |
|  | 5 | 5 | 8 | 9 | 9 |



## 4. LETTERS CHAINS

Write digits from 0 to 6 into the circles. Each row and column should contains every digit exactly once. Circles of each chain which form letters should also contain different digits. Number outside the grid is a sum of digits in the circles of corresponding row or column which do not belong to any chain.


## 5. HEXA SKYSCRAPERS

Write digits from 1 to 7 (buildings with height 1-7) in each hexagons so that every row in all three directions contains only building with different height. Numbers outside the grid show how many buildings seen in corresponding direction of the arrow.


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Write digits from 1 to 4 in some hexagons in the grid so that each row in all three directions contains each digit exactly once. Digits outside the grid indicate the second digit seen in corresponding direction of the arrow.

7. BARRELS

Fill the white cells on the each barrels side with different digits from 1 to 6 . Digits cannot repeat in every horizontal and vertical directions. Each number on the barrels top must be equal to the sum or product of the four different digits in the barrel. All top numbers are different and less than 91.


## 8. ON GROWTH

Each row and column must contain all digits from 0 to 9 spread over the 4 cells in the following way - one 4-digit number, one 3-digit number, one 2-digit number, and one 1 -digit number. The numbers containing 0 will always have the 0 last ( 0 as a single digit is not allowed), but other than 0 , all numbers have their digits arranged in increasing order. Numbers outside the grid show the sum of numbers in corresponding direction.

| $\stackrel{\text { ® }}{ }$ - |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | , |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  | , |  |
| B $\rightarrow$ |  |  |  |  |  |
|  | 3861 | 7146 | 1872 | 4266 | 6147 |

## 9. THERMOMETERS IN BOXES

The figures in the grid are thermometers. Mercury in each thermometer (if it is not empty) occupies round part and continues towards the other end of the thermometer shape. Numbers outside the grid show how many cells with mercury in corresponding row or column. Find the filling of all thermometers. Thermometers in every outlined $4 \times 4$ box should have different mercury quantity (from 0 to 4 ).


## 10. SUDOKU BUILDER

Make 9 nine-cells areas by joining 3 given areas and obtain the Irregular Sudoku. Then fill the grid with digits from 1 to 9 . Digits must be different in every row, column and nine-cell area.


## 11. CALCULATING SQUARE

Fill the grid with digits from 1 to 8 so that every row, column and main diagonals contain each digit exactly once. Replace the letters outside the grid with digits so that same letters correspond to same digits and different letters correspond to different digits. All given equations should be correct. Letter with subscript " $n$ " means that the digit which corresponds to this letter is locate at the n-th cells in direction of the arrow. An extra grid will be provided for solver's convenience.


$$
\begin{gathered}
A+B^{2}=C \times F+D \times E \\
A+B+E=C+D
\end{gathered}
$$

Extra grid

| $\triangle$ |  |  |  |  |  |  | $\ddots$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $\checkmark$ |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  |  |
|  |  |  | $\ddots$ | 5 |  |  |  |
|  |  |  | 6 |  |  |  |  |
|  |  |  |  |  | 6 |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

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Place into the grid objects having zero height - playgrounds, parkings, pond, dog-walking grounds, which cannot touch each other even diagonally. Every row/column must contain buildings of different heights from 1 to $\mathrm{N}(\mathrm{N}<7$, for each row/column must be own N$)$. Digits outside the grid show how many objects (including objects of zero height) seen in corresponding direction. Green cells belongs to the objects of zero height.


## 13. HEXA SKYSCRAPERS WITH VOIDS

Write digits from 1 to 6 (buildings with height 1-6) into the grid so that every row in all three directions contains only building with different height from 1 to N (for each row must be own N). Digits outside the grid show how many buildings seen in corresponding direction of the arrow.



Using two sets of domino from 0-0 to 5-5 put some dice in every $2 \times 1$ white cell. Each dice show the two-digits number which can start with zero. All numbers must be different and the sum of numbers in each row, column and both main diagonals must be equal.
Every pair of neighbouring digits with sum equals to 5 is marked. After rotating this page in $180^{\circ}$ the grid will present the magic square again (the sum can be another).


