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SEPTEMBER'S CONTEST 2012

by Riad Khanmagomedov

130 minutes

INSTRUCTION BOOKLET

1. DIAMONDS	10 pt
2. DIAYAJILIN	45 pt
3. DIFFERENCES	16 pt
4. DIGITS ROTATION	17 pt
5. DIGRAM	7 pt
6. DIKURO	26 pt
7. DIMAGIC	20 pt
8. DIOXIDES	8 pt
9. DISPOSITION	14 pt
10. DIVERGENCE	14 pt
11. DIVERSION	8 pt
12. DIVERSION WITHOUT BORDERS	40 pt
13. DIVISION	23 pt
14. DIWORD	12 pt
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TOTAL	260 pt

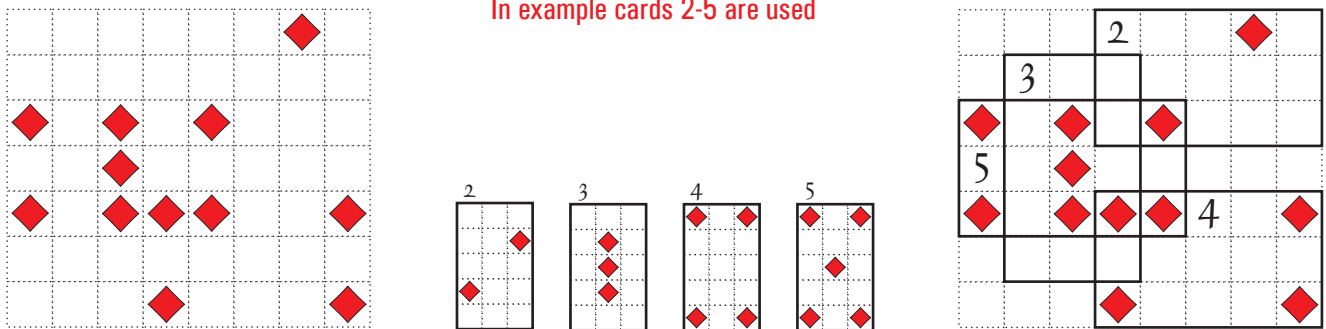
TIME BONUS 2 points per each saved minute if all the puzzles are solved correctly

Thanks to Nikola Zivanovic, Andrey Boklagov,
Deb Mohanty and LMI...

1. DIAMONDS

10 pt

Transparent diamonds cards (from 2 to 10 as shown at the picture) are placed at the table. Borders of two cards cannot have common segments. Outline the cards. All given diamonds should be used.

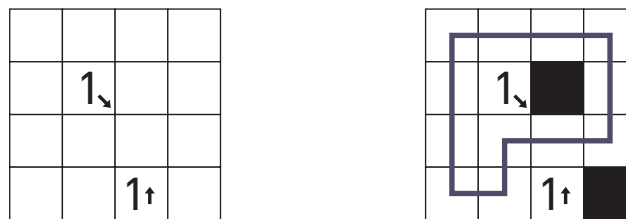


Answer format: Write the value of horizontal cards in increasing order.
For the given example the answer would be: 245.

2. DIAYAJILIN

45 pt

Blacken some cells so that you can draw a single closed loop through all remaining white cells. Black cells cannot be adjacent to each other. The loop cannot touch or cross itself. Each number in the grid show how many black cells can be seen in the direction of the arrow. Numbered cells cannot be blackened.

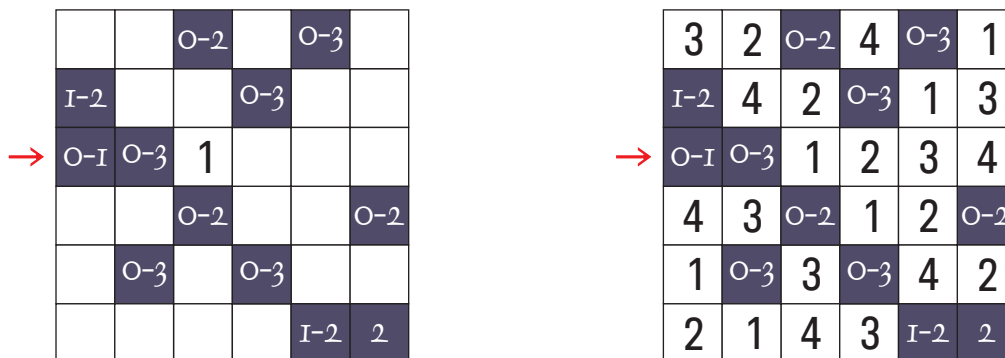


Answer format: Write the number of black cells.
For the given example the answer would be: 2.

3. DIFFERENCES

16 pt

Write digits from 1 to 6 (4 for the example) to the white cells so that every row and column contains different digits. Two digits in dark cell show the minimum and maximum of differences of all pairs of digits in white cells touching this dark cell (by edge and by corner).



Answer format: Write the content (6 digits) of marked row from left to right.
For the given example the answer (4 digits) would be: 1234.

4. DIGITS ROTATION

17 pt

Given figures consist of unit squares with digits. Place them into the grid following by grid lines. Figures cannot touch each other not even diagonally. You may rotate them but not reflect. Each number outside the grid show the sum of digits in correspondent direction.

Answer format: Write the content of marked column from top to bottom. Use "0" for each empty cell. For the given example the answer would be: 007066.

5. DIGRAM

7 pt

Fill in all cells with digits 1-9 which cannot repeat in rows and columns. Each number below the grid show the sum of digits in the corresponding column.

Answer format: Write the content of marked row from left to right. For the given example the answer would be: 2867.

6. DIKURO

26 pt

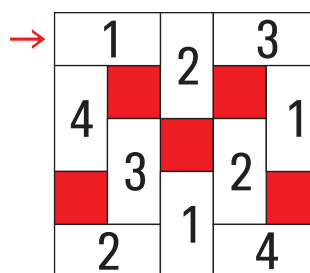
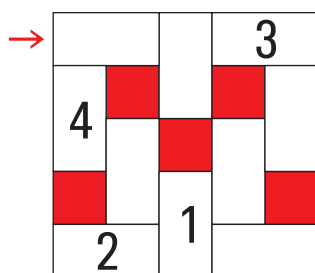
Fill in the white cells with digits 1 to 9. The sum of digits in continuous one row/column equal to the number at the beginning of row/column. The digits in one sum cannot repeat.

Answer format: Write the 9 digits of marked column from top to bottom. For the given example the answer (3 digits) would be: 354.

7. DIMAGIC

20 pt

Fill in all white cells with digits 1-7 (1-4 for the example) which cannot repeat in rows and columns.

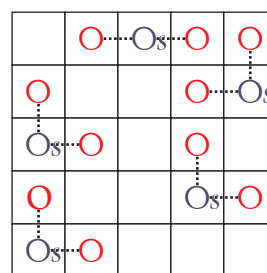
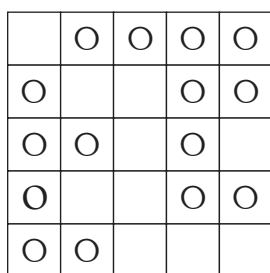
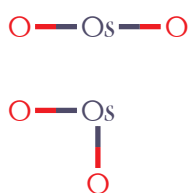


Answer format: Write the content (7 digits) of marked row from left to right.
For the given example the answer (3 digits) would be: 123.

8. DIOXIDES

8 pt

Place letter "s" in 27 cells (5 for the example) with letter "O". Cells with Os (osmium atom) cannot touch each other not even diagonally. These, along with the 2 other oxygen atoms O, will form 27 (5 for the example) osmium dioxides having the given shapes.

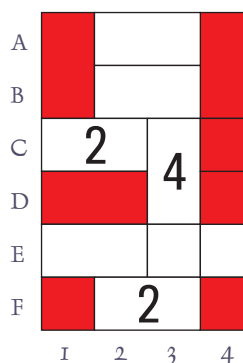
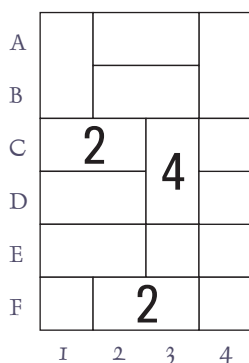
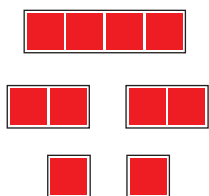


Answer format: Write the number of right-angled dioxides.
For the given example the answer would be: 4.

9. DISPOSITION

14 pt

Place the given fleet following by grid lines. Ships cannot touch each other not even diagonally and cannot occupy cells with digits. Each number in the grid show how many parts of ships (rectangles and squares) are located in the horizontally, vertically and diagonally adjacent cells.

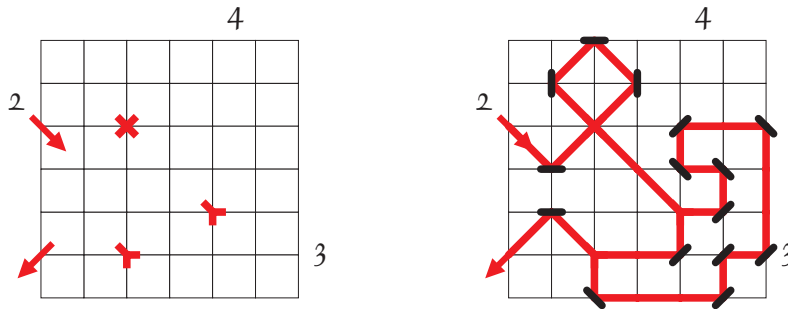


Answer format: Write the coordinates of all one-square ships from top row to bottom.
For the given example the answer would be: F1, F4.

10. DIVERGENCE

14 pt

Place mirrors centred at various grid nodes in such a way that a laser beam can traverse the grid as follows: The beam enters and exits the grid as shown by the arrows. The laser travels at an 45° with respect to the grid until it reaches one of the red "Y" symbols, at which point the beam splits into 2 beams which now travel vertically and horizontally along the grid lines. Two beams can also merge at a "Y", producing a single beam which once again travels at an 45° . Numbers at the right and at the bottom of the grid show the number of mirrors in the corresponding direction. Numbers at the left and at the top of the grid show how many times the beam passes through the corresponding row or column. The laser intersects itself only in the nodes with the red "X". The laser touches every mirror exactly once.

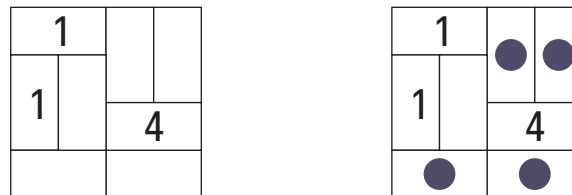


Answer format: Write the quantity of diagonal mirrors.
For the given example the answer would be: 10.

11. DIVERSION

8 pt

Each number in the grid show how many mines are located in the horizontally, vertically and diagonally adjacent empty cells. The object is to reveal all the mines in the grid, providing that a cell can contain only 1 mine. Mines cannot occupy cells with digits.

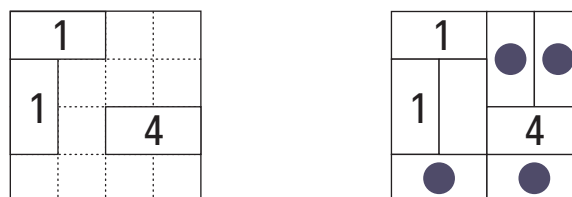


Answer format: Write the number of mines in the grid.
For the given example the answer would be: 4.

12. DIVERSION WITHOUT BORDERS

40 pt

Cut the grid into rectangles 1×2 . Each number show how many mines are located in the horizontally, vertically and diagonally adjacent empty cells. The object is to reveal all the mines, providing that a rectangle can contain only 1 mine. Mines cannot occupy cells with digits.

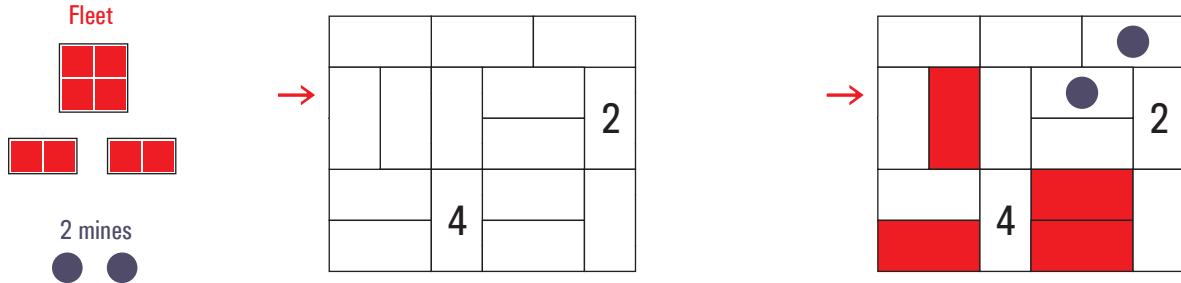


Answer format: Write the number of horizontal rectangles with mine.
For the given example the answer would be: 2.

13. DIVISION

23 pt

Place the given fleet and 20 mines (2 for the example) into the grid. A cell can contain only 1 mine. Each number show how many mines or parts of ships are located in the horizontally, vertically and diagonally adjacent cells. Mines and ships cannot occupy cells with digits. Ships cannot touch each other and cells with mine not even diagonally.



Answer format: Write the content of marked row from left to right. Use "M" for each cell with mine, "S" for cells with parts of ships, "-" for each empty cell.

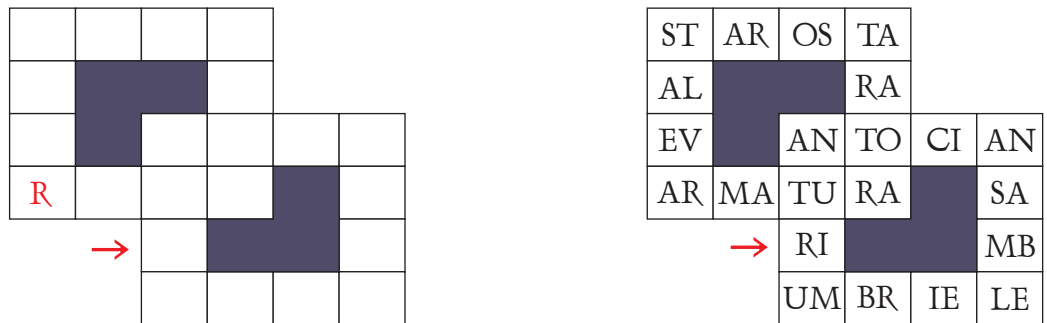
For the given example the answer would be: -S-M2.

14. DIWORD

12 pt

Place in the grid all words from left to right and from top to bottom. Write 2 letters in each cell. One letter (first or second) is given.

- ANSAMBLE
- ANTOCIAN
- ANTURIUM
- ARMATURA
- STALEVAR
- STAROSTA
- TARATORA
- UMBRIELE



Answer format: Write the content (16 letters) of marked row from left to right.

For the given example the answer (4 letters) would be: RIMB.