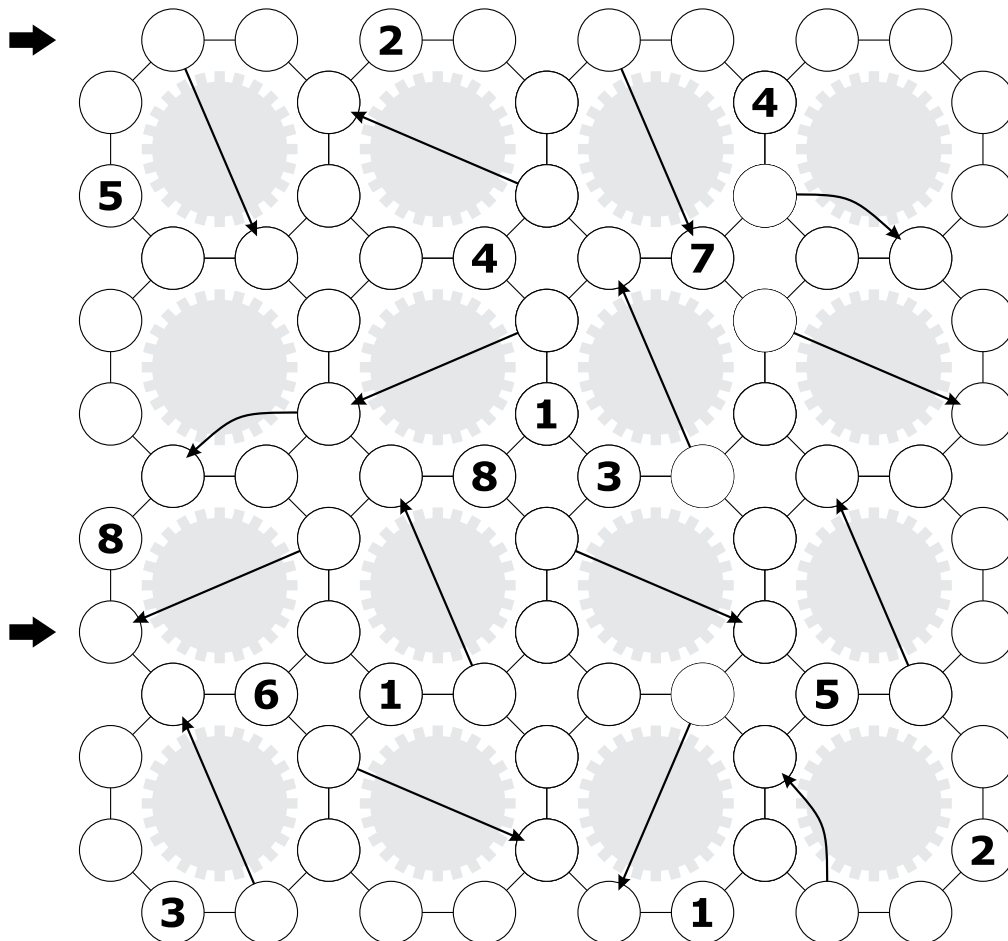


1. Gears (45 points)

Fill in the grid with the numbers 1 through 8 so that they do not repeat in rows, columns and around each gear. Arrows point from the lesser number to the bigger one.



Answer format: describe the content of the marked rows from top to bottom.

2. 2D Magic (70 points)

Fill in the grid with the different two-digit numbers (first digit must be always bigger). Digits used for these numbers cannot repeat in rows, columns and main diagonals.

→		3	2	7	
					7
	6			2	9
			1		5
→			4		

Answer format: describe the content of the marked rows from top to bottom.



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3. 3-in-1 (55 points)

a) Battleships

Place the given fleet in the grid. Ships can be rotated. They cannot touch each other even diagonally. Numbers on the right and bottom show the number of cells occupied by the ships in the corresponding rows and columns.

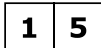
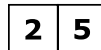
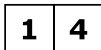
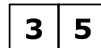
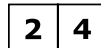
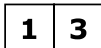
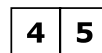
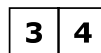
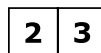
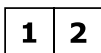
b) Domino

Place the given domino set in the grid. Dominoes cannot touch each other even at a point. Values of the halfdominoes cannot be repeated in rows and columns. Numbers on left and top show the total of the values in the corresponding rows and columns.

c) Tents

Place the tent near each tree (in adjacent cell). Cells with the tents cannot touch each other even at a point.

Each empty cell of the grid should contain exactly one element of the solution of any of these puzzles.



Answer format: describe the content of the marked rows from top to bottom. Use corresponding numbers for the dominoes, "s" for the ships, "t" for the tents and "x" for the trees.



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4-5. BarbieBarbie (25 + 55 points)

Fill in the grid with the numbers from the given range so that they are used exactly once in each row and column. Small number in each outlined area is the result of some basic arithmetic operation (+, -, x, /) applied to all numbers in that area. Subtraction (-) and division (/) are applicable only to 2-cell areas (you subtract the lesser number from the bigger one or divide the bigger number by the lesser one). There are no restrictions for the areas with the question mark.

-2 ~ 2

0	7			0
	0			
0	0			
			?	0
0				

-2 ~ 3

-8		0		1	
	1		2		
1		7			0
	0			12	
1					4
		0			

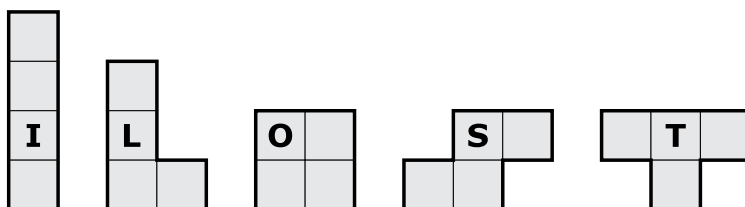
Answer format: describe the content of the marked rows from top to bottom.

6-7. Untouchable Tetra (20 + 60 points)

Divide the grid into tetraminoes. Same elements (even rotated and/or mirrored) should not touch each other even at a point. Lettered cells should belong to the corresponding elements.

			L		
	L			L	

					T
	T				
T			T		
		T			T



Answer format: describe the content of the marked rows from top to bottom.



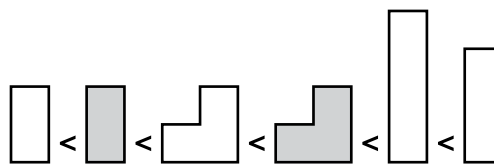
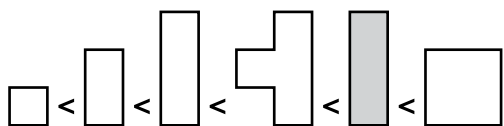
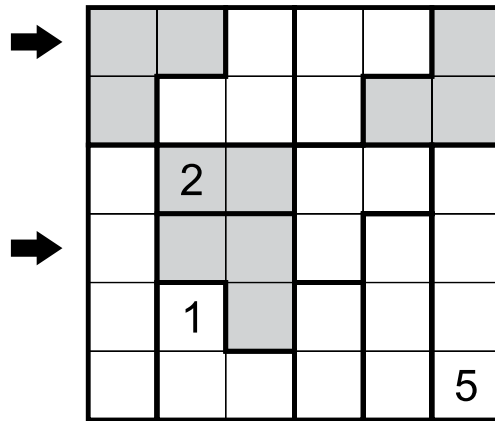
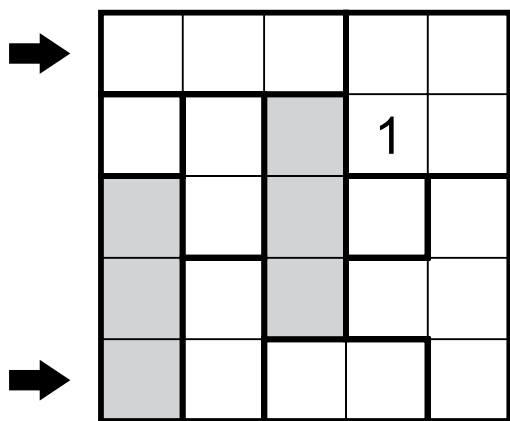
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8-9. Figure Sums (35 + 60 points)

Fill in the grid with the numbers 1 through 5/6 so that they are used exactly once in each row, column and outlined area. Total of all numbers in the similar areas (of the same size, form and color) may be rotated and/or mirrored) should be the same. Comparison of totals for all areas are given.

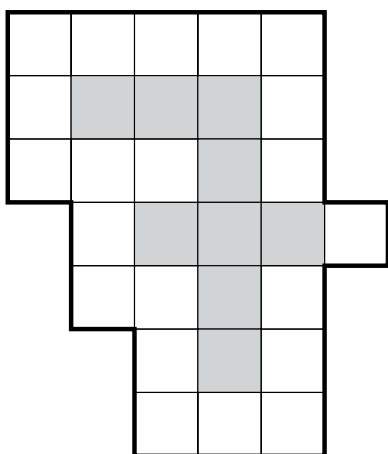


Answer format: describe the content of the marked rows from top to bottom.

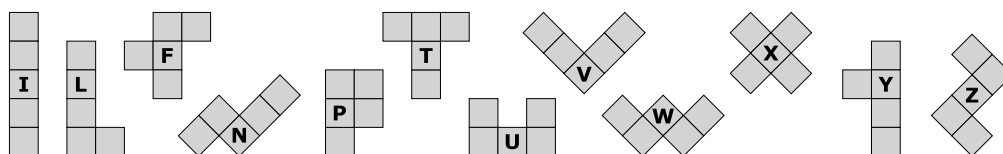
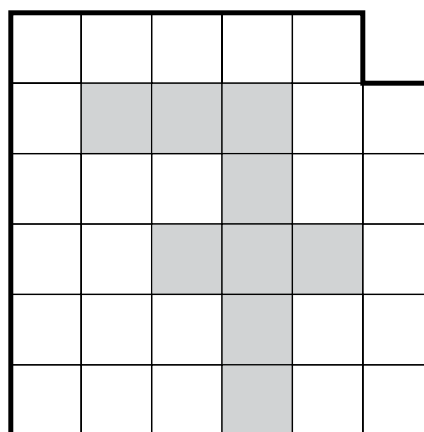
10-11. Pentagramya (35 + 45 points)

Divide the grid into different pentominoes. They can be rotated and/or mirrored. All the elements containing the grey cells are listed above the grid.

N Y Z



F T V



Answer format: describe the content of the marked columns from left to right.



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12. Domino magnets (85 points)

Place the given domino set in the grid. Each domino should occupy one of the outlined 2-cell areas. Some areas will be left empty. Values on the different dominoes that have the same parity cannot be adjacent. Numbers outside the grid show the total of even/odd values for all rows and columns.

→								10	9	
								10	3	
								4	4	
								2	19	
								14	3	
	5							4	11	
								24	2	
→								16	12	
	2	12	10	14	8	8	8	22	EVEN	
	10	13	4	6	20	4	4	2	ODD	

1 1	2 2	3 3	4 4	5 5	6 6
1 2	2 3	3 4	4 5	5 6	
1 3	2 4	3 5	4 6		
1 4	2 5	3 6			
1 5	2 6				
1 6					

Answer format: describe the content of the marked rows from top to bottom. Use "x" for the empty cells.



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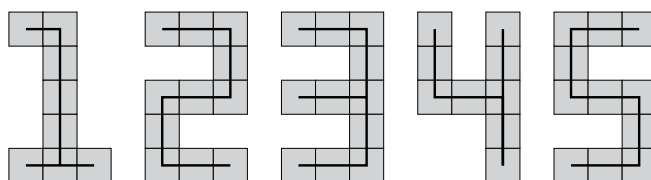
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13-14. Digital coverage (40 + 40 points)

Place some figures representing numbers 1 through 5 in the grid. They can be rotated but cannot be mirrored. Figures cannot overlap and should cover as many circles as numbers they represent. All circles should be covered. Every figure can be used as often as needed.

		○		○				
→						○		
			○			○		
→	○				○			
	○						○	
			○					○

				○				
→				○		○		
	○		○		○		○	○
→			○	○	○	○		
			○		○		○	
			○					



Answer format: describe the content of the marked rows from top to bottom. Use "x" for the empty cells and corresponding numbers for the covered cells.



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15. Hula-hoop (110 points)

Draw the snake-like loop (one cell wide, not touching itself even at a point) in the grid. Loop cannot go through the numbered and grey cells. Fill all the cells not used by the loop with the numbers 1 to 9 so that they're not repeated in rows, columns and outlined areas. Numbers in grey cells should be equal to the number of the neighbouring cells (adjacent and touching at a point) used by the loop.

8											
								1			
				7							
					4					8	
			3								
								9			
							2				4

Answer format: describe the content of the marked rows from top to bottom. Use "x" for the cells occupied by the loop.

16. Sudoku 1-4 (55 points)

Fill in the grid with the numbers 1 to 4. Each row, column and outlined area should have one 1, two 2s, three 3s and four 4s. There are some additional restrictions for the numbers 1 to 3: 1s cannot be placed in the same diagonals, 2s cannot touch each other even at a point and 3s cannot be adjacent.

Answer format: describe the content of the marked rows from top to bottom.

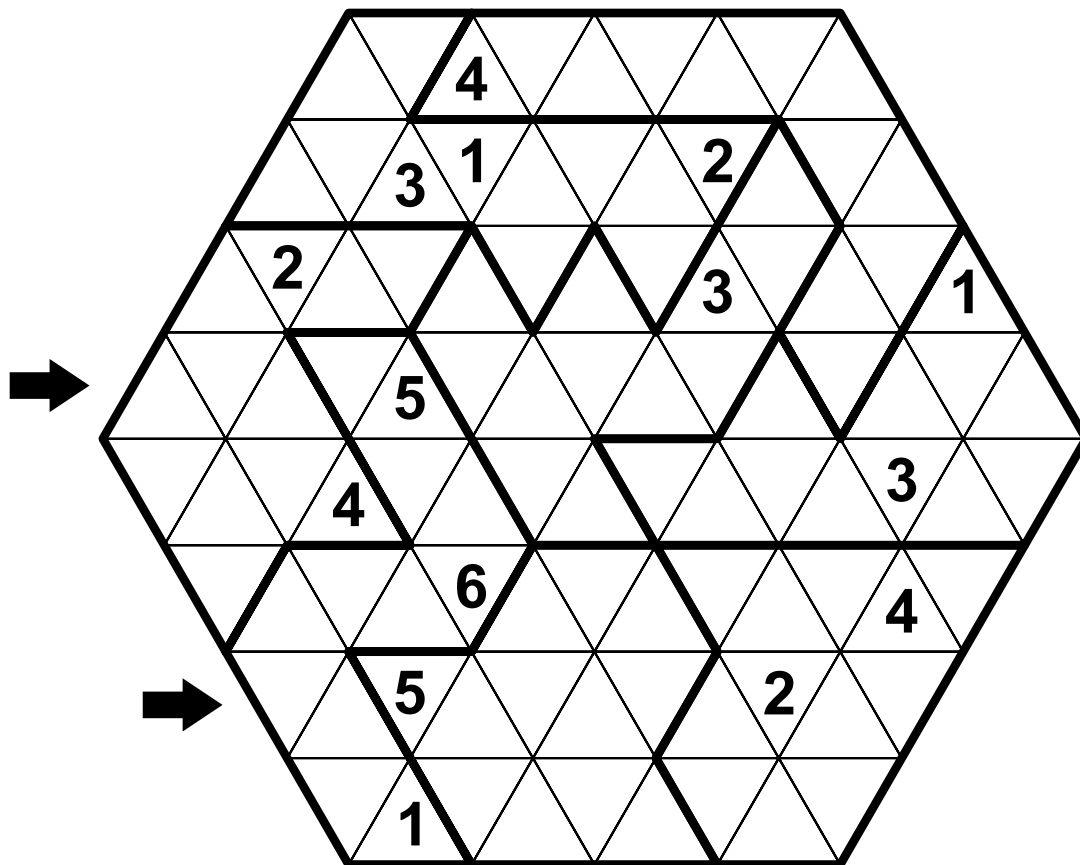
17-18. Roman sudoku (45 + 60 points)

Fill in the grid with the numbers 1 through 6/7 so that they are used exactly once in each row and outlined area. For some rows its content is fully given (numbers are shown in their Roman representation in order without spaces).

Answer format: describe the content of the marked diagonals from top to bottom.

19. Triangular Sudoku (60 points)

Place in the grid the numbers 1 through 6 so that they are used exactly once in each row (in all three directions) and outlined area.



Answer format: describe the content of the marked rows from top to bottom. Use "x" for the empty cells.