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Бэлтгэл №4

2022/06/09

1. Тара

Shade some cells to create a continuous wall. Numbers in a cell indicate the lengths of consecutive shaded blocks in the cells neighbouring diagonally and orthogonally. If there is more than one number in a cell, there must be at least one white cell between the shaded blocks. Shaded cells cannot form a 2x2 square (or larger). Cells containing numbers cannot be shaded.

Example

	1 3			0	
					2
1 3					
		1 3	3		
		1 2	1		
					4
1 2					
	4			5	

Solution

	1 3			0	
					2
1 3					
		1 3	3		
		1 2	1		
					4
1 2					
	4			5	

1-1. 2.5 points

	1 5			1 5		1 5
	1 5			1 5		
			1 5			
	1 5			1 5		1 5
		1 5				
			1 5	1 5		
	1 5					1 5

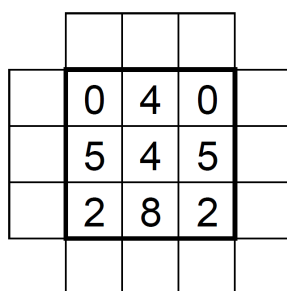
1-2. 5.5 points

						2
		2 2				
	4			1 4		
			1 1		2 3	
		1 3 1		2 2		
			2 3			
						4
				1 1		
2						

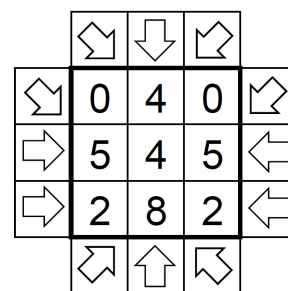
2. Arrows

Place exactly one arrow into each of the cells outside the grid. Numbers inside the grid indicate how many arrows point to the cell in the grid. An empty cell inside the grid means that the number of arrows pointing at it is unknown. Each arrow has to point at at least one gridcell in one of the given eight directions.

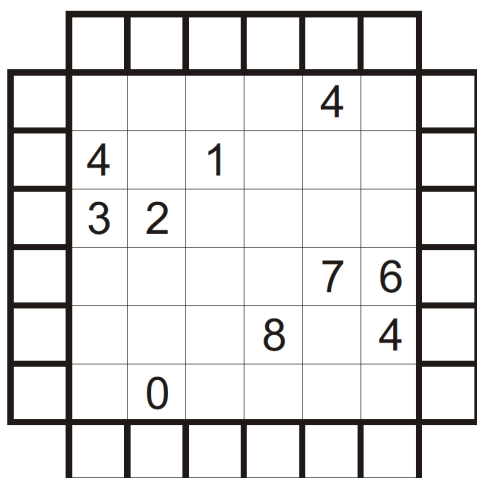
Example



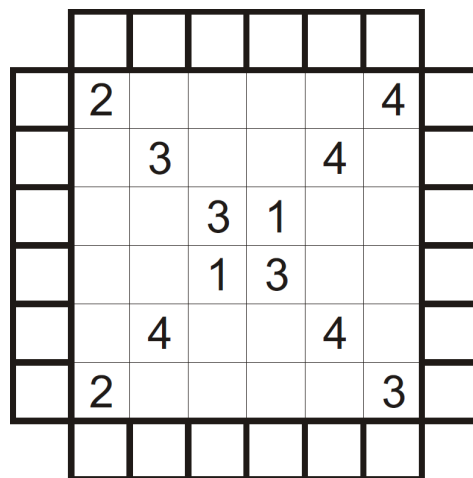
Solution



2-1. 1.5 points



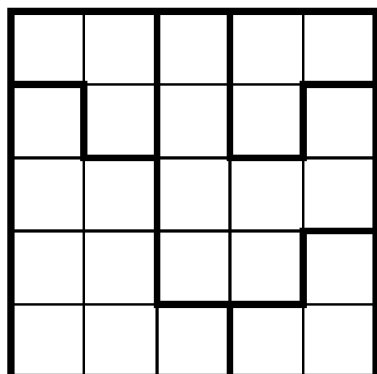
2-2. 1.5 points



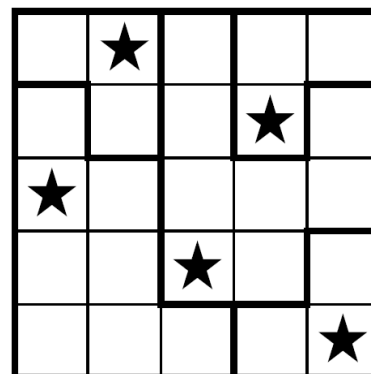
3. Starbattle

Place some one-cell size stars into the grid so that each row, column and outlined area contains the given number of stars. The cells containing stars cannot touch each other, not even diagonally. The number of stars will be given in a circle next to the puzzle.

Example

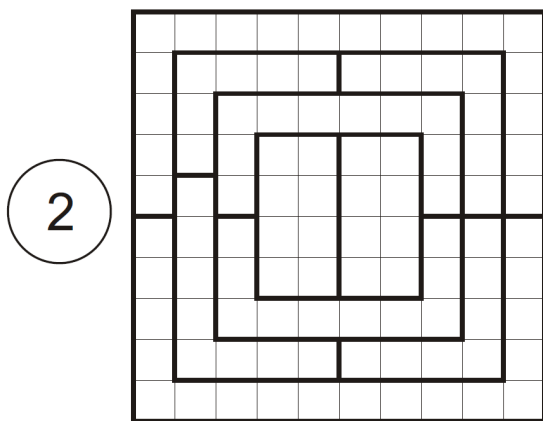


Solution

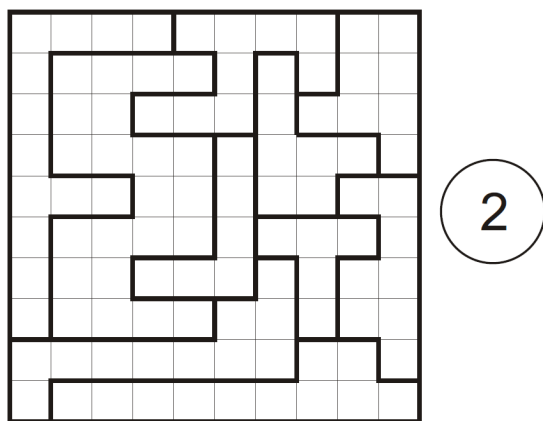


See puzzle 3-1 and 3-2 on page 3.

3-1. 1.5 points



3-2. 2.5 points



4. Cave

Shade some cells in the grid to form a single orthogonally connected shape. All unshaded cells must be connected to the edge of the grid through orthogonally adjacent unshaded cells. All given numbers must be a part of the shaded shape. The given numbers indicate the number of cells inside the shape that can be seen from that cell, including the cell itself. Cells do not see past unshaded cells.

Example

2				2
	3			
		4		
			5	
5				6

Solution

2		X	X	2
X	3	X		
		4		X
X	X	X	5	
5				6

4-1. 5 points

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

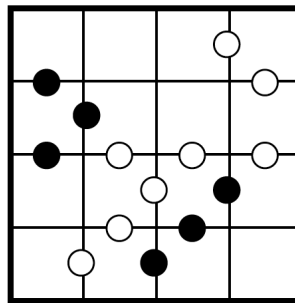
4-2. 6 points

			3			3				
8				7				3		
	3				5				10	
		4				4				5
			3				6			
5				8				5		
	4				5				9	
		3				6				2
			7				8			

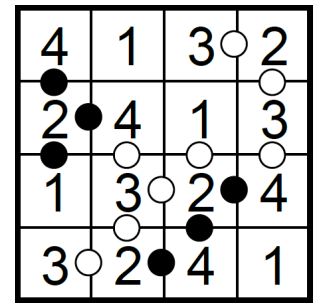
5. KROPKI

Fill in the whole grid with digits 1 to N (where N is the size of the grid) so that each row and column contains each digit exactly once. If there is a white dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose difference is exactly one. If there is a black dot between a pair of orthogonally adjacent cells, then the cells must contain numbers whose quotient is exactly two. There can be either black or white dot between 1 and 2. All possible dots have been given.

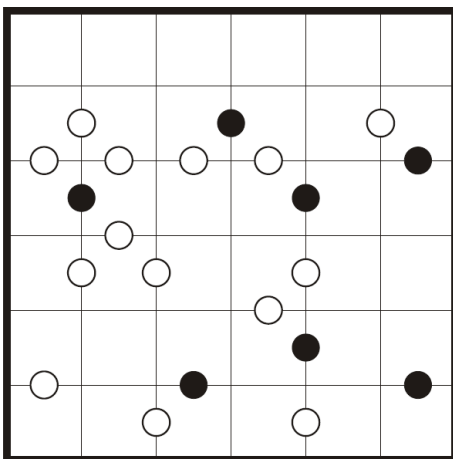
Example



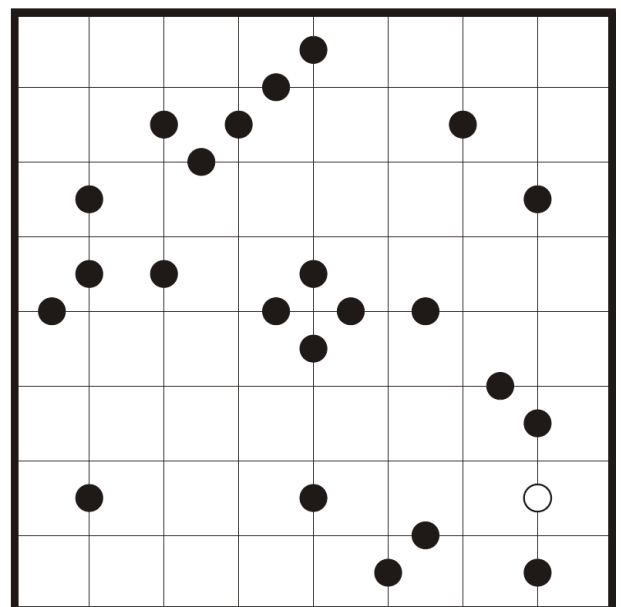
Solution



5-1. 1.5 points



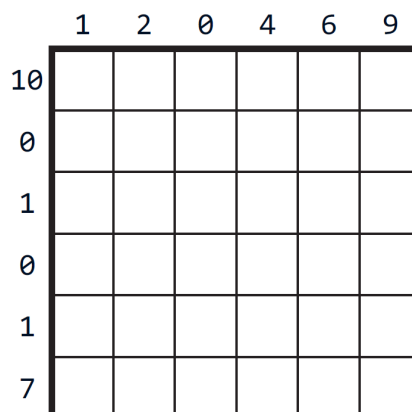
5-2. 5 points



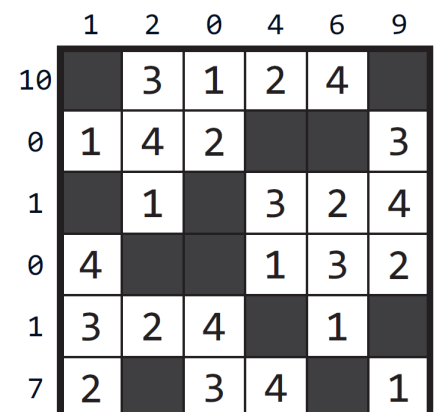
6. Doppelblock

Place a digit from 1 to (N-2), in an NxN grid, into each of the empty cells so that each digit appears exactly once in each row and column. Shade the remaining two cells in each row and column. The numbers outside indicate the sum of the digits in between the two shaded cells in the corresponding row or column.

Example



Solution



See puzzle 6-1 and 6-2 on page 5.

6-1. 1.5 points

	7	2	0	1	7	
5						
3						
12						
15						
0						
7						
3						

6-2. 3 points

	1	5	15	16	3	14	14	10
20								
17								
10								
7								
6								
19								
5								
5								

7. Magnets

Place magnetic and nonmagnetic plates in the grid. Each magnetic plate has 2 halves: one positive (+) and one negative (-). Halves with the same polarity can't touch each other by a side. The numbers outside the grid indicate the number of magnetic halves with the indicated polarity in the corresponding row or column.

Example

						2	2
						2	2
						3	2
						2	3
						2	2
						3	3
2	3	3	1	2	3	+	
3	2	2	3	1	3		-

Solution

-	+	-			+	2	2
		+	-	+	-	2	2
-	+	-	+		+	3	2
+	-	+	-		-	2	3
-	+			-	+	2	2
+	-	+	-	+	-	3	3
2	3	3	1	2	3	+	
3	2	2	3	1	3		-

7-1. 2.5 points

										5	4
										3	4
										4	3
										3	5
										3	1
										3	4
										3	3
										3	4
										3	4
										4	2
4	2	4	2	3	4	4	3	3	5	+	
4	2	4	3	4	4	3	3	2	5		-

7-2. 6 points

											3
											2
											4
											2
											1
											2
											4
											+
2	4	1	1		2	2	2				-