

# WPF PUZZLE GP 2017 COMPETITION BOOKLET

**Host Country: Slovakia**

**Author: Matus Demiger**

**Special Notes:** None.

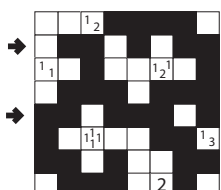
## A1. Tapa (61 points)

Shade some empty cells black (cells with numbers cannot be shaded). All black cells connect along edges to create a single connected region. (It is permissible for the region to touch itself at a corner, but touching at a corner does not connect the region.) No 2x2 group of squares can be entirely shaded black.

Numbers in a cell indicate the lengths of contiguous black cell groups along the "ring" of (up to) 8 cells touching that cell. (If there is more than one number in a cell, then there must be at least one white (unshaded) cell between the black cell groups.) The numbers are given in *no particular order*. As a special case, if the number given in a cell is a zero (0), it means that none of the cells around that cell may be shaded black.

**Answer:** For each designated row, enter the length in cells of each of the shaded segments from left to right. Use only the last digit for two-digit numbers; e.g., use '0' for a segment of size 10. If there are no black cells in the row, enter a single digit '0'.

**Example Answer:** 212, 231



1a →

1									1
				2 <sub>3</sub>		2 <sub>3</sub>			
	5							3	
			6				6		
					1 <sub>5</sub>				
	1 <sub>4</sub>							1 <sub>4</sub>	
					2 <sub>3</sub>				
			1 <sub>4</sub>				1 <sub>4</sub>		
	2 <sub>2</sub>							1 <sub>4</sub>	
				1 <sub>5</sub>		1 <sub>3</sub> <sup>1</sup>			
2									1

1b →

**A2. Magnets (174 points)**

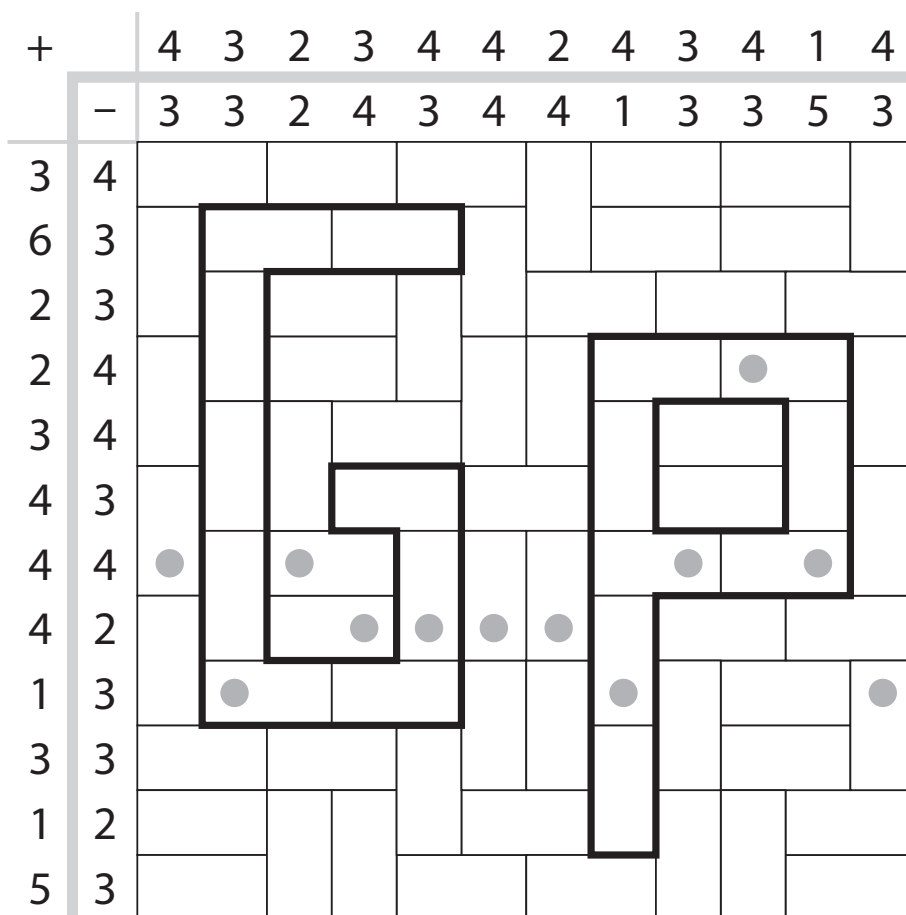
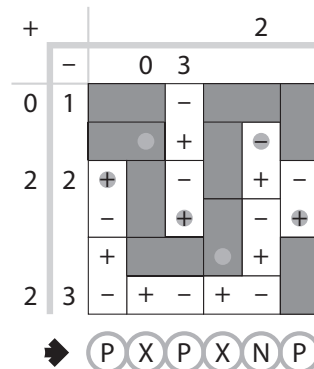
The grid is partitioned into regions of two square cells each (note that only region borders are drawn). Put "positive" (+) and "negative" (-) symbols into some cells, at most one symbol per cell, such that each region either has two symbols or no symbols at all. Adjacent cells (even within a region) cannot contain the same symbol.

The numbers above and to the left of the grid indicate the exact number of symbols of the specified type that must be placed in each column or row, respectively. If a number is not given, there might be any number of symbols of the specified type.

The outlined regions in the competition puzzle are for decorative purposes only. The dots in cells are only used for entering your answer.

**Answer:** Enter the contents of each dotted cell, reading the dots from left to right. (Ignore which row the dots are in.) Use 'P' for a "positive" (+) symbol, 'N' for a "negative" (-) symbol, and 'X' for an empty cell. Alternatively, you may use '+' for a positive symbol, '-' for a negative symbol, and 'X' for an empty cell, but do not mix the two systems!

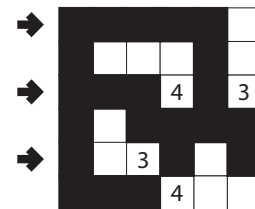
**Example Answer:** PXPXNP





**A3. Nurikabe (85 points)**

Shade some cells black (leaving the other cells white) so that the grid is divided into non-overlapping regions; cells of the same color are considered in the same region if they are adjacent along edges. Each given number must be in a white region that has the same area in cells as that number. Each white region must have exactly one given number. All black cells must be in the same region. No 2x2 group of cells can be entirely shaded black.



**Answer:** For each designated row, enter the lengths (number of cells) of the black segments from left to right. If there are no black cells in the row, enter a single digit '0'. Use only the last digit for two-digit numbers; e.g., use '0' for a black segment of length 10.

**Example Answer:** 5, 31, 111

3a →

										6							
		4				5											
							19					11					
				3													
										7					6		
						2											
		4															
			1				3						3				
															2		
										4							
	8				2												
													2				
			16					6									
									7						4		
					7												

3d →

3e →

**A4. Inequalities (102 points)**

Place a digit from 1 to X into each cell so that each digit appears exactly once in each row and column. (X is the number of cells in each row.) The borders between some cells have been distorted to resemble an inequality sign (" $>$ " or " $<$ "); the digits in those cells must obey the corresponding inequality. Some digits may already be filled in for you.

*Note that some grids may have internal "holes" that are black and not part of the grid. The dots in cells are only used for entering your answer.*

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

**Answer:** Enter the contents of each dotted cell, reading the dots from left to right. (Ignore which row the dots are in.)



**Example Answer:** 23311

