

WPF PUZZLE GP 2016 INSTRUCTION BOOKLET

Puzzle Authors: Germany

Silke Berendes, Claudia Müller, Bernhard Seckinger

General Notes: See special notes on puzzles 1 and 2 regarding scissors and color printing. Also note that puzzle 26 has been removed before the contest start.

Points, Casual Section:

1.	Jigsaw Puzzle	19
2.	Photo Stream (1 swap)	40
	(perfect bonus)	10
3.	Mastermind	12
4.	Mastermind	37
5.	Mastermind	14
6.	Labyrinth	31
7.	Labyrinth	39
8.	Arithmetic	11
9.	Arithmetic	15
10.	Arithmetic	12
11.	Find the Differences (9 diff.)	24
	(10th difference bonus)	4
	(perfect bonus)	31
12.	Instructionless Machine	57
13.	Instructionless Machine	64
TOTAL:		420

Points, Competitive Section:

14.	Star Battle	12
15.	Star Battle	17
16.	Star Battle	32
17.	Star Battle	67
18.	Yajilin	8
19.	Yajilin	15
20.	Yajilin	36
21.	Yajilin	52
22.	Magnets	7
23.	Magnets	15
24.	Magnets	56
25.	Magnets	60
27.	Twopa	5
28.	Twopa	17
29.	Twopa	12
30.	Twopa	32
31.	Fillomino Checkerboard	12
32.	Fillomino Checkerboard	29
33.	Fillomino Checkerboard	22
34.	Fillomino Checkerboard	43

TOTAL: 549

Casual Section (420 total points)

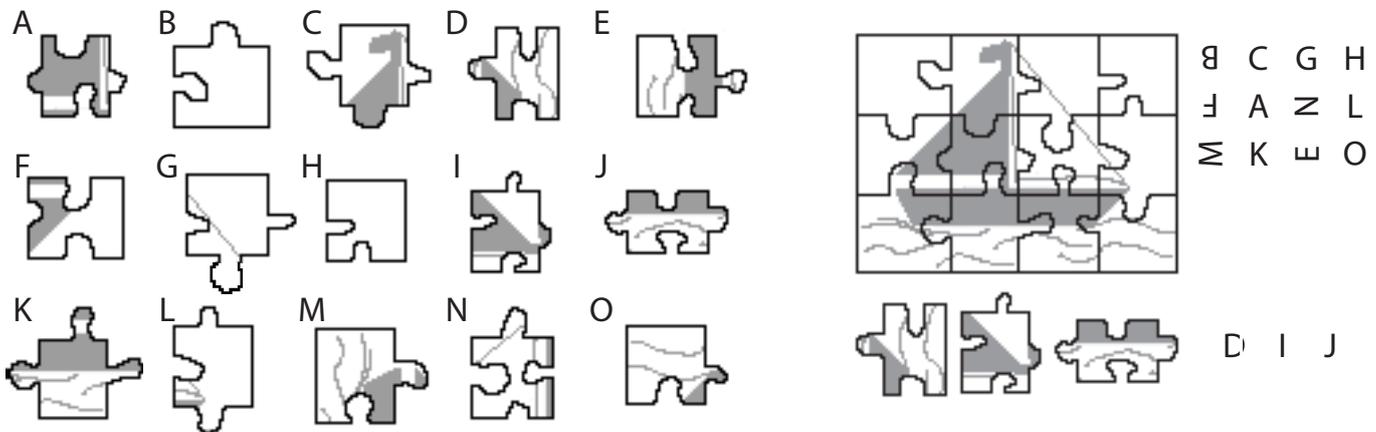
1. Jigsaw Puzzle [Silke Berendes] (19 points)

You are given jigsaw puzzle pieces, some of which assemble to a complete image. **Four** pieces are extra and do not belong to the puzzle. Determine which four do not belong to the puzzle. Pieces may be rotated but not reflected.

The example puzzle only has three extra pieces. You may use scissors or other cutting implements for this puzzle, but they might not help you solve the puzzle faster.

Answer: Enter the letters corresponding to the four extra pieces, in alphabetical order.

Example Answer: DIJ



2. Photo Stream [Claudia Müller] ("close" answer: 40 points, 10 bonus if correct)

Put the photographs in chronological (time) order.

The competition photographs will be in color, and spread over pages 2-5. While the puzzle is solvable if printed greyscale, it may be easier to solve in color. Partial credit will be given for a "close" answer (an answer that has only two time-adjacent letters swapped). You may use scissors to help you solve the puzzle.

Answer: Enter the letters of the photographs in the correct order, earliest photograph first.

Example Answer: DBAC





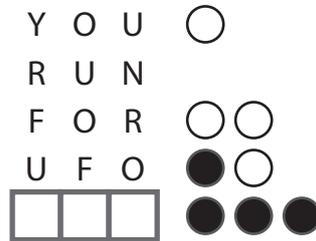
3-5. Mastermind [Silke Berendes] (12, 37, 14 points)

Each row represents a guess at a secret code. A black dot represents a letter in the guess that is in the same position as a letter in the secret code. A white dot represents a letter in the guess that is in the secret code, but not in the same position. The dots are given in no specific order, and each letter in the secret code contributes at most one dot with black dots given priority over white dots in case of ambiguity (for example, if the guess was FREED and the codeword was GEESE, the puzzle would display 1 black and 1 white). Each letter in the secret code appears in at least one guess. Blank spaces can appear in the guesses but will never appear in the secret code.

The last line with empty space for the secret code, and any notes on the side, are given for aesthetic reasons only. The secret code may or may not be a word.

Answer: Enter the secret code.

Example Answer: OFF



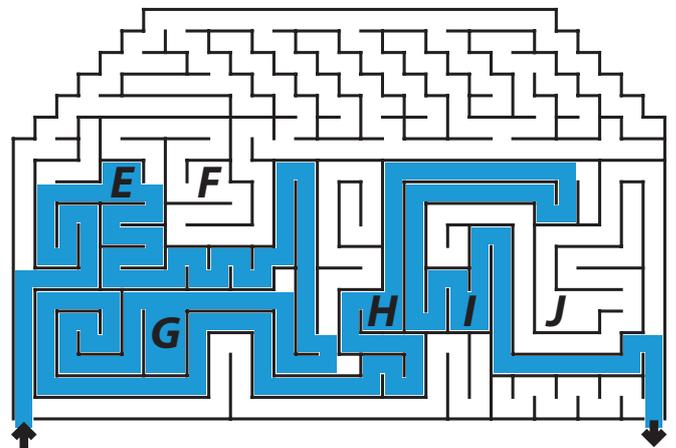
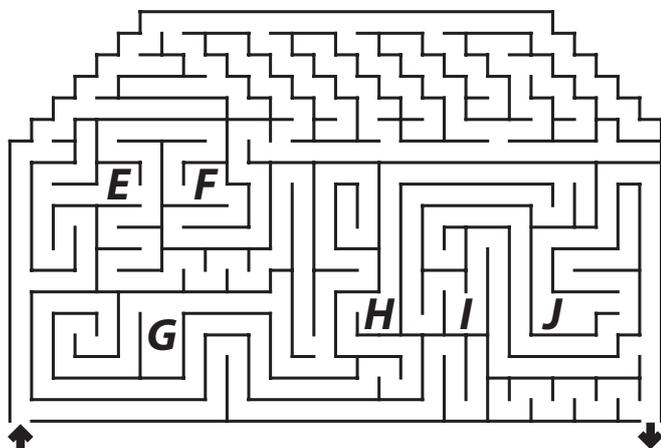
6-7. Labyrinth [Silke Berendes] (31, 39 points)

Find a path through the maze from the entrance to the exit that passes through 12 lettered rooms. (The path does not have to pass through the entire length of the room to count as passing through it; for example, in the example puzzle, the path passes through room G.)

The example puzzle's path only goes through 4 lettered rooms.

Answer: Enter the letters from the rooms the path passes, in the order in which the path passes through them.

Example Answer: EGHJ





8-10. Arithmetic [Silke Berendes] (11, 15, 12 points)

Each symbol represents a different (base ten) digit. Figure out which symbol corresponds to which digit so that all equations are true. Multi-digit numbers cannot start with the digit 0 (zero).

The bottom row of symbols is only used to help you enter your answer.

Answer: Enter the correct assignment of digits to the symbols, in order from left to right.

Example Answer: 1892634

$\begin{array}{r} \triangle B \div \bigcirc = D \\ - \quad \quad \quad \div \quad \quad \quad \times \\ \square \div \Gamma = D \\ = \quad \quad \quad = \quad \quad \quad = \\ \triangle D \div \Gamma = \bigcirc \end{array}$	$\begin{array}{r} 18 \div 9 = 2 \\ - \quad \quad \quad \div \quad \quad \quad \times \\ 6 \div 3 = 2 \\ = \quad \quad \quad = \quad \quad \quad = \\ 12 \div 3 = 4 \end{array}$
$\rightarrow \triangle B \bigcirc D \Gamma \square$	$\rightarrow 1892634$

11. Find the Differences [Claudia Müller] (24 points for 9 found, 28 for 10, 59 for 11)

Find the eleven differences between the picture and its reflection.

The example has three differences, not eleven. The competition puzzle will be in greyscale.

The differences are clearly intentional, such as things that have disappeared, moved, changed size, shape, or orientation. Ignore the grid lines and subtle differences due to graphic anomalies or overall distortion. Each grid square will contain at most one difference, and each difference will stay within one grid square.

You will receive points if you find nine of the eleven differences, with additional points if you find ten, and more points if you find all eleven. There is no penalty for incorrect guesses, but you may not enter more than eleven coordinates.

Answer: Enter the coordinates, row first (such as 'A1') for each difference found. You do not need to enter them in any particular order. (Do not put separating symbols, such as spaces or commas, between the coordinates.)

Example Answer: A1E3B2



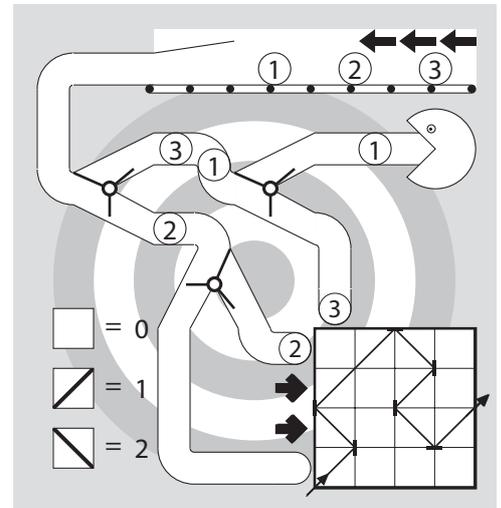
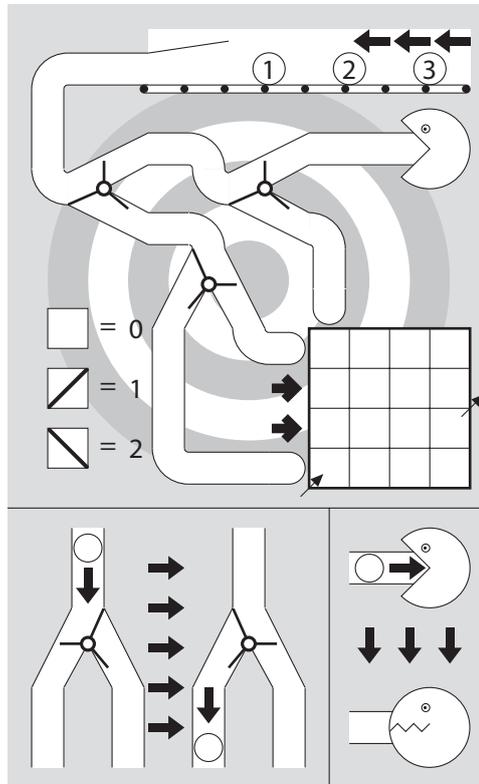
12-13. Instructionless Machine [Bernhard Seckinger] (57, 64 points)

No text instructions are given for this puzzle.

Answer: For each designated row, enter its contents.

Example Answer:

1010, 2021



Competitive Section (549 total points)

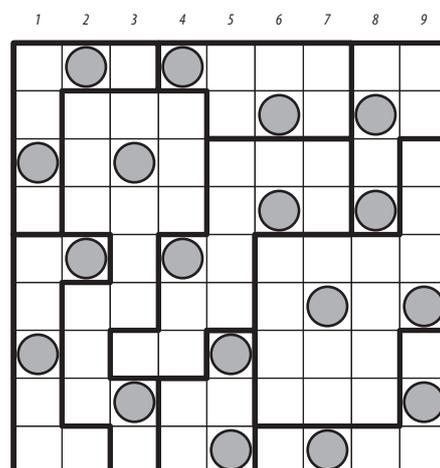
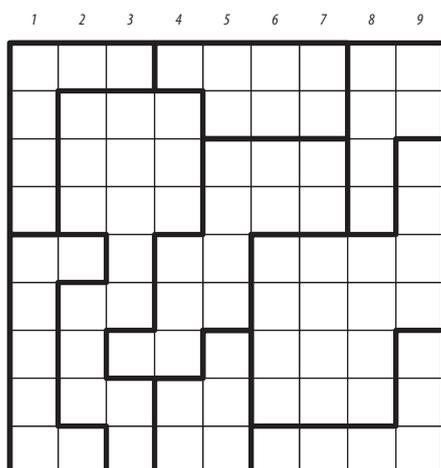
14-17. Star Battle [Silke Berendes] (12, 17, 32, 67 points)

Place stars into some cells in the grid, no more than one star per cell. Each row, each column, and each outlined region must contain exactly two stars. Cells with stars may not touch each other, not even diagonally.

The numbers on top of the diagram are for Answer purposes only.

Answer: For each row from top to bottom, enter the number of the first column from the left where a star appears (the number on top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first star appears in column 10.

Example Answer: 261627135





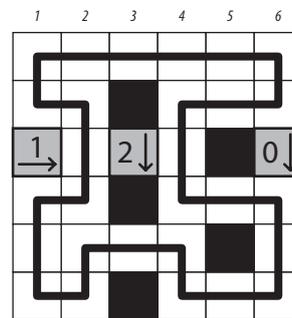
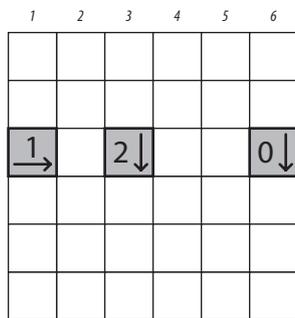
18-21. Yajilin [Silke Berendes] (8, 15, 36, 52 points)

Blacken some white cells and then draw a single closed loop (without intersections or crossings) through all remaining white cells. Loop paths must be orthogonal. Blackened cells cannot share an edge with each other. Some cells are outlined and in gray and cannot be part of the loop. Numbered arrows in such cells indicate the total number of blackened cells that exist in that direction in the grid.

The numbers on top of the diagram are for Answer purposes only.

Answer: For each row from top to bottom, enter the column number of the left-most blackened cell. (Outlined gray cells are not blackened.) Use only the last digit for two digit numbers; e.g., use '0' for column 10. If none of the cells in a row are blackened, enter '0' for that row.

Example Answer: 035353



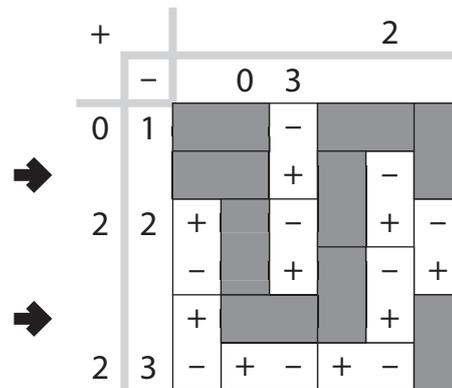
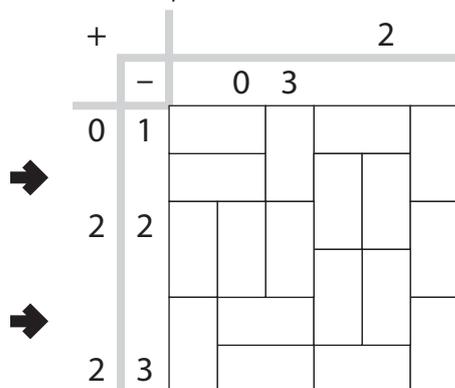
22-25. Magnets [Claudia Müller] (7, 15, 56, 60 points)

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.

Answer: For each designated row, enter its contents, using '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: XXPXNX, PXXXXP





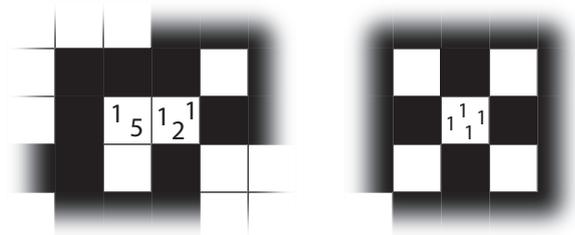
27-30. Twopa [Silke Berendes] (5, 17, 12, 32 points)

The provided grid has multiple Tapa solutions (possibly more than two). Find two solutions such that for each numbered cell, the arrangement of shaded cells around that cell is different in the two solutions.

Rules for Tapa: 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.

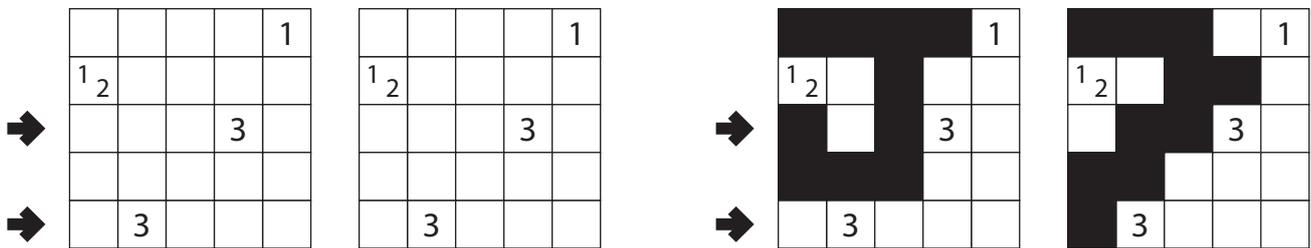
Numbers in a cell indicate the lengths of contiguous black cell groups along the "ring" of (up to) 8 cells touching that cell. (If there is more than one number in a cell, then there must be at least one white (unshaded) cell between the black cell groups.) The numbers are given in *no particular order*.

Tapa Clue Examples



Answer: For each designated row (spanning *both* grids), 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 for *both* grids, enter a single digit '0'. Use both solutions for each row; you may give the two solutions in either order.

Example Answer: 112, 1 or 211, 1



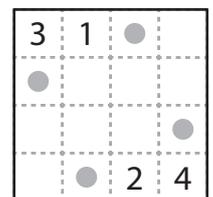
31-34. Fillomino Checkerboard [Silke Berendes] (12, 29, 22, 43 points)

Solve the Fillomino puzzle, with the extra constraint that it must be possible to color each polyomino region either all black or all white, so that black regions never share an edge and white regions never share an edge.

Fillomino Rules: Divide the grid along the dotted lines into regions (called polyominoes) so that no two polyominoes with the same area share an edge. Inside some cells are numbers; each number must equal the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers. (It is possible to have a "hidden" polyomino: a polyomino without any of the given numbers. "Hidden" polyominoes may have any area, including a value not present in the starting grid, such as a 6 in a puzzle with only clues numbered 1-5.)

The dots in cells and the circles below the grid are only used to help enter your answers. It is possible for a polyomino to contain more than one dot.

Answer: Enter the area of the polyomino each dot is in, reading the dots from left to right. (Ignore which row the dots are in.) Use only the last digit for two-digit numbers; e.g., use '0' for a polyomino of size 10.



Example Answer: 3424