Paris Puzzle Open – *Open de Paris* – 14.06.2025

Round 2 – A bit of reflection – 75 minutes – 750 points

Instruction Booklet

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Round-specific instructions

For each puzzle genre in this round, there are two grids: the first one with the normal rule, and the second one with mirrors. (To help remind you, a mirror is drawn outside the top-left corner of each grid with mirrors.) The following common instructions apply to all grids with mirrors:

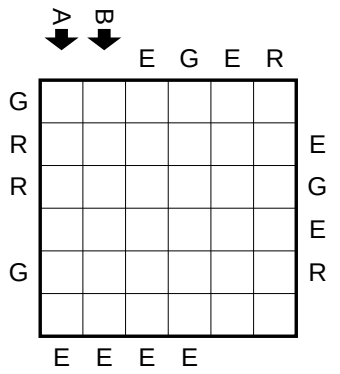
- Place diagonal mirrors (making a 45 degree angle with the grid lines) into some empty cells of the grid, in such a way that each row and each column contains exactly one mirror. Cells containing mirrors must remain otherwise empty (cannot receive a digit, letter, loop segment, shaded square, ...).
- The mirrors reflect light perfectly (on both faces), and each given clue indicates what is seen from the given vantage point, along a line that begins in the given direction but bounces at a 90 degree angle when it encounters a mirror. The cell containing the mirror appears as an empty square as seen from the given vantage point.
- However, genre instructions that describe the general contents of the grid still apply to the actual row and columns of the grid. For example, in Skyscrapers and Japanese Sums the digits may not repeat along a row or column, although the given numerical clues describe what is seen along a path that bounces off any mirrors it encounters and may involve repeated digits.

1-2. Easy as EGER / Easy as EGER with mirrors (15+80 points)

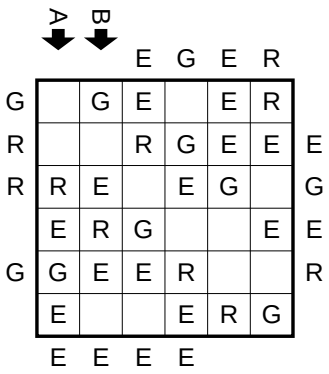
Place the letters E,G,E,R into some cells of the grid, at most one letter per cell, so that each row and column contains two E's, one G and one R. The letters outside the grid indicate the first letter that can be seen from the respective direction.

Online answer key: enter the contents of the given rows/columns; use X for an empty cell, M for a mirror. For the example grids: XXREGE, GXEREX and MBAX, AXBM.

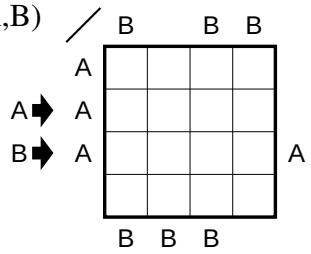
Example:



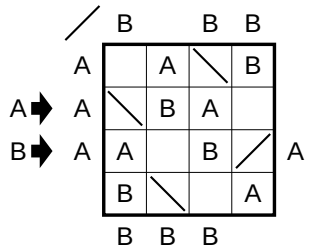
Solution:



Example: (letters A,B)



Solution:

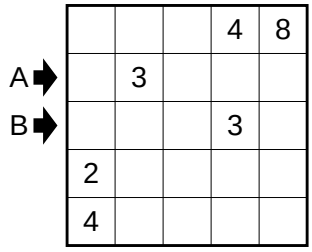


3-4. Cave / Cave with mirrors (20+40 points)

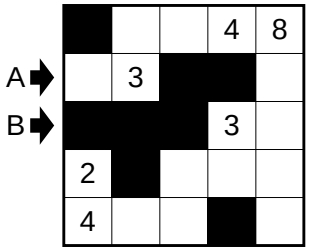
Shade some cells of the grid so that the remaining cells form a single orthogonally connected group (the cave), with no enclosed shaded cells. In other words, all shaded cells must be connected edge-wise by other shaded cells to an edge of the grid. All numbered cells must be a part of the cave, with each number indicating the total count of cave cells visible vertically and horizontally from the numbered cell, including the cell itself. In the presence of mirrors, a cell that can be seen from a clue cell along two different directions is counted **twice** (once for each direction in which it can be seen).

Online answer key: Normal grid: enter the lengths of the successive groups of shaded and unshaded cells in the marked rows or columns. With mirrors: enter the number of mirrors oriented /, then the lengths of the successive groups of shaded and unshaded cells in the marked rows or columns. For the example grids: $221, 32$ and $3, 6, 123$.

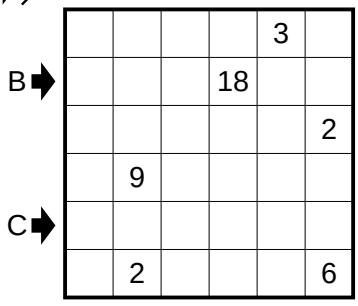
Example:



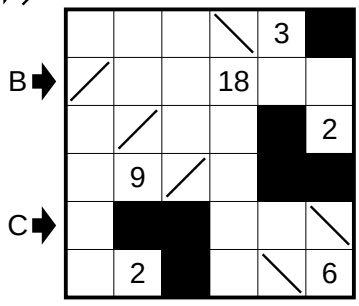
Solution:



Example: A



Solution: A

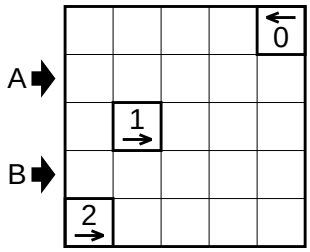


5-6. Yajilin / Yajilin with mirrors (20+55 points)

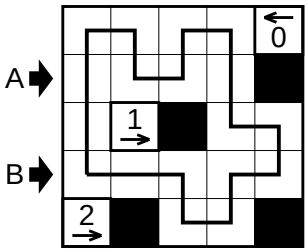
Shade some cells black, and draw a loop formed by horizontal and vertical segments that passes through all squares of the grid except black cells or cells containing clues (or mirrors). Each clue indicates the number of black cells in the direction pointed by the arrow; cells with clues cannot be shaded black, and black cells may not touch each other by an edge.

Online answer key: Normal grid: enter the lengths of the loop segments in the marked rows or columns; enter '0' if there are no line segments along the marked direction. With mirrors: enter the number of mirrors oriented /, then the the lengths of the loop segments in the marked rows or columns. For the example grids: $1, 21$ and $4, 1, 3$.

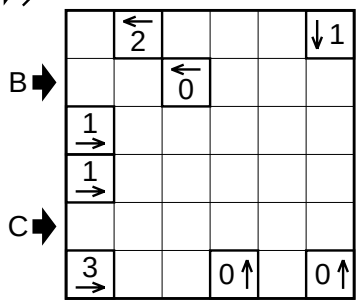
Example:



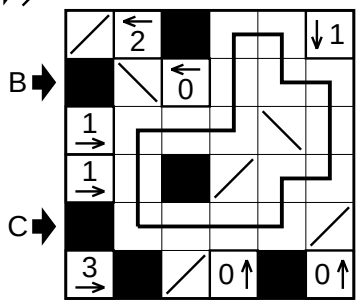
Solution:



Example: A



Solution: A

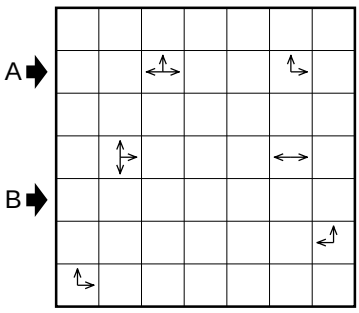


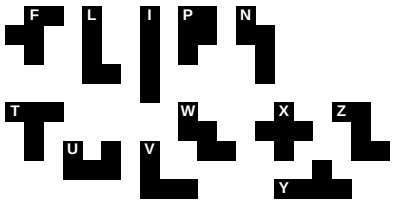
7-8. Pentopia / Pentopia with mirrors (20+80 points)

Place some pentominoes into the grid so that they don't touch each other, not even diagonally. Clues in the grid indicate the direction(s) in which the closest cell(s) occupied by pentominoes can be seen when looking horizontally or vertically from that cell. Pentominoes cannot cover clue cells, and no shape can be used more than once. Rotations and reflections count as the same shape. There is no requirement to use all the shapes.

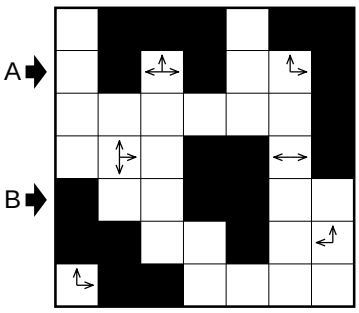
Online answer key: Normal grid: list all the pentominos appearing in the given rows, in order. With mirrors: give the number of mirrors oriented /, then all the pentominos appearing in the given rows, in order. For the example grids: UL,WP and 3,YF,Y.

Example:

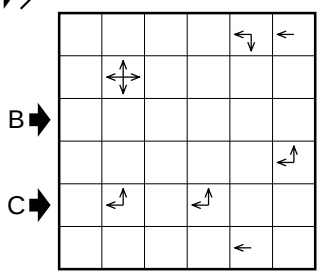


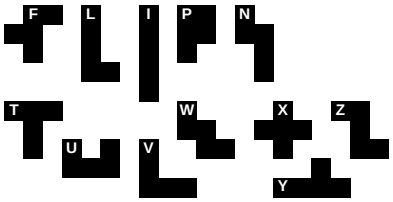


Solution:

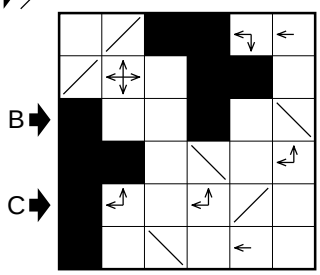


Example: A





Solution: A

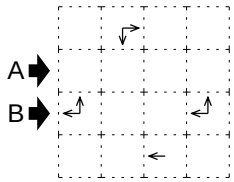


9-10. Myopia / Myopia with mirrors (25+70 points)

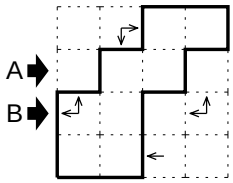
Draw a closed loop consisting of horizontal and vertical line segments going along the dashed lines. The arrows in the grid indicate the direction(s) in which the loop is closest when looking from that cell.

Online answer key: Normal grid: enter the lengths of the successive groups of cells inside and outside the loop in the marked rows or columns. With mirrors: enter the number of mirrors oriented /, then the lengths of the successive groups of cells inside and outside the loop in the marked rows or columns. For the example grids: 121, 22 and 2, 4, 13.

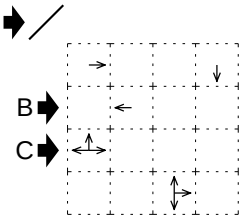
Example:



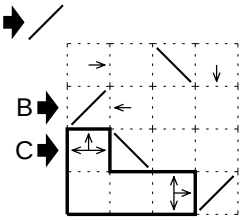
Solution:



Example:



Solution:



11-12. Skyscrapers / Skyscrapers with mirrors (40+125 points)

Place a number from 1 to 6 into each empty cell so that each number appears exactly once in each row and column. Each number represents a skyscraper of its respective height. The numbers outside the grid indicate how many skyscrapers are visible from that direction (a building located behind one of greater or equal height is completely hidden).

Online answer key: enter the contents of the given rows/columns. Use M for mirrors. For the example grids: 3421, 1234 and 213M, 1M23.

Example:

		1	2		
	2				
A	2				
B					
					3
		3			

Solution:

		1	2		
	2	2	1	4	3
A	2	3	4	2	1
B		1	2	3	4
		4	3	1	2
		3			

Example:

	/	1	1	1	1	
	1					1
A						1
B	2					1
	3					
		3	2			

Solution:

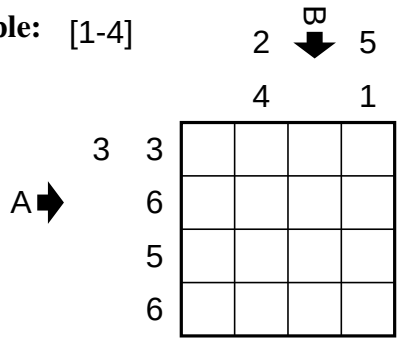
	/	1	1	1	1	
	1	3	2	\	1	1
A		2	1	3	\	1
B	2	1	/	2	3	1
	3	/	3	1	2	
		3	2			

13-14. Japanese sums / Japanese sums with mirrors (45+115 points)

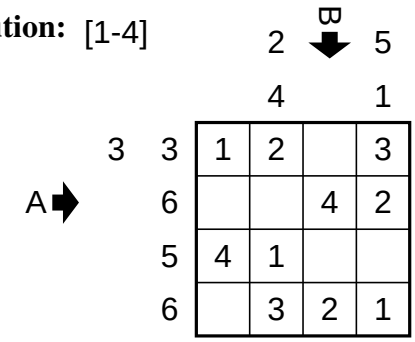
Place digits from the indicated range into some of the cells, so that no digit is repeated in any row or column. The numbers outside the grid indicate all the sums of the groups of digits filled in consecutively as seen from the given direction, in the order in which they occur. Successive sums must be separated by at least one empty square.

Online answer key: enter the contents of the given rows/columns. Use X for empty cells, M for mirrors. For the example grids: XX42, X4X2 and X2M1, XM32.

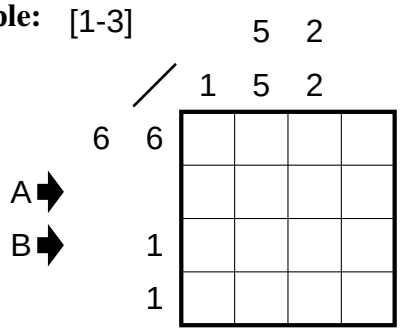
Example: [1-4]



Solution: [1-4]



Example: [1-3]



Solution: [1-3]