



WPF
SUDOKU/PUZZLE
GRAND PRIX
2016

ROUND 7
COMPETITIVE

WPF PUZZLE GP 2016 COMPETITION BOOKLET

Host Country: Netherlands

Bram de Laat

Special Notes: You may use scissors for this round; they may be useful for the Casual Section. Pages 5 and 6 of the Casual Section are in landscape mode, and cover the same puzzle.

19. Easy as... (14 points)

Place letters of the specified list into some cells, no more than one letter per cell, so that each letter appears exactly once in each row and column. The letters outside the grid indicate the first letter that can be seen in the respective row or column from the respective direction.

Answer: For each designated row, enter its contents. Do *not* include any letters outside the grid. Use 'x' for an empty cell.

Example Answer: CBXXA, BXXAC

		B	B	B	
→	{A,B,C}	C	B		A
A		A	C	B	
A		A	C	B	
→		B		A	C
A			A	C	B
		B			

19a → {A,B,C,D}

19b →

			C	D	
A					
B					
C					
	A			B	

Answer: For each designated row, enter its contents. Do *not* include any letters outside the grid. Use 'X' for an empty cell.

Example Answer: CBXXA, BXXAC

A 6x6 grid with labels A, B, C, D. The grid is divided into four 3x3 quadrants. The top-left quadrant is labeled 'D' at the top and 'A' at the bottom. The top-right quadrant is labeled 'C' at the top and 'B' at the bottom. The bottom-left quadrant is labeled 'D' at the bottom and 'A' at the bottom. The bottom-right quadrant is labeled 'C' at the bottom and 'B' at the bottom. Two arrows, labeled '20a' and '20b', point from the left towards the grid. The set {A,B,C,D} is written at the top left.

{A,B,C,D}

							C
A							
D							
							B
C							D
	A						D



22-23. Domino Search (23, 34 points)

Divide the grid into a full set of dominoes. Each domino should be used exactly once. The orientation of the digits does not matter. Empty cells are not part of a domino. A checklist of the full set is provided for your convenience.

Answer: For each designated row, enter all the digits in dominoes that are *only* in that row (that is, the horizontal dominoes), from left to right. If there are no horizontal dominoes in the row, enter a single digit '0'.

Example Answer: 00, 11

	2	2	1		
→	0	0	3	2	0
	3	2	3	1	1
→	0	1	1	3	2
	3				0

22a →

	6	1	1	6	5	1	
2	6	1	1	0	3	3	0
0	0	3	2	5	3	3	4
0	0	5			6	4	6
6	1	3			2	5	5
3	2	2	5	0	1	5	5
4	2	2	6	4	4	1	2
	0	4	3	4	4	6	

22b →

0	0												
0	1	1	1										
0	2	1	2	2	2								
0	3	1	3	2	3	3	3						
0	4	1	4	2	4	3	4	4	4				
0	5	1	5	2	5	3	5	4	5	5	5		
0	6	1	6	2	6	3	6	4	6	5	6	6	6

23a →

5	1	4	4	5	2	5	3
5	4	4	0	0	2	4	6
5	0	1	2	2	6	1	3
5	6	3	0	2	1	1	5
1	6	1	0	4	6	0	3
3	3	2	0	2	6	1	4
0	4	6	6	3	3	2	5

23b →

0	0												
0	1	1	1										
0	2	1	2	2	2								
0	3	1	3	2	3	3	3						
0	4	1	4	2	4	3	4	4	4				
0	5	1	5	2	5	3	5	4	5	5	5		
0	6	1	6	2	6	3	6	4	6	5	6	6	6



24. Domino Search (69 points)

Answer: For each designated row, enter all the digits in dominoes that are *only* in that row (that is, the horizontal dominoes), from left to right. If there are no horizontal dominoes in the row, enter a single digit '0'.

Example Answer: 00, 11

→

	2	2	1		
0	0	3	2	0	
3	2	3	1	1	
0	1	1	3	2	
3				0	

→

0 | 0

0 | 1 1 | 1

0 | 2 1 | 2 2 | 2

0 | 3 1 | 3 2 | 3 3 | 3

0 | 4 1 | 4 2 | 4 3 | 4 4 | 4

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

0 | 6 1 | 6 2 | 6 3 | 6 4 | 6 5 | 6 6 | 6

0 | 7 1 | 7 2 | 7 3 | 7 4 | 7 5 | 7 6 | 7 7 | 7

0 | 8 1 | 8 2 | 8 3 | 8 4 | 8 5 | 8 6 | 8 7 | 8 8 | 8

0 | 9 1 | 9 2 | 9 3 | 9 4 | 9 5 | 9 6 | 9 7 | 9 8 | 9 9 | 9

24a →

24b →

6	2	2	9	2	0	6	3	5	6	6
7	1	3	3	4	2	0	8	8	5	1
4	3	6	9	8	5	9	1	2	1	0
8	0	0	2	6	6	4	4	3	2	3
5	1	8	5	6	9	8	8	7	4	8
4	0	5	5	7	9	9	7	2	5	7
4	0	3	1	1	1	0	6	6	4	1
2	5	6	3	5	7	3	3	9	4	2
2	8	7	9	4	9	3	4	0	7	8
1	7	7	8	0	0	9	1	9	5	7

25-27. Ripple Effect (50, 66, 57 points)

Place a number into each cell so that each bold region contains the numbers from 1 to n , where n is the number of cells in the region. Cells containing the same number x within the same row (or column) must have at least x cells between them in that row (or column). (For example, cells containing "1" cannot touch along an edge, cells containing "2" cannot touch or have exactly one cell between them in the same row or column, and so on.) Some numbers may be already filled in the grid.

→

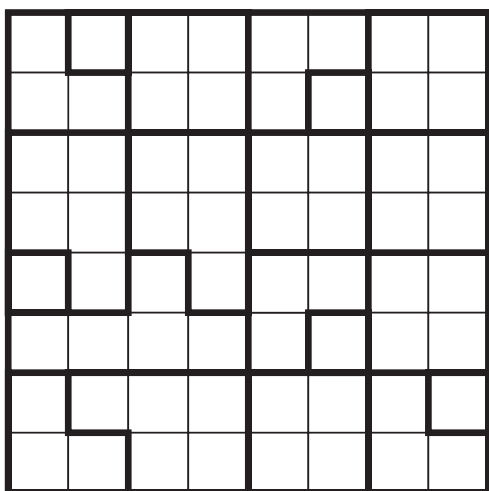
1	2	1	3	1	4
3	1	2	4	3	2
4	3	5	1	2	3
2	1	3	2	4	1

→

Answer: For each designated row, enter its contents (including any given numbers).

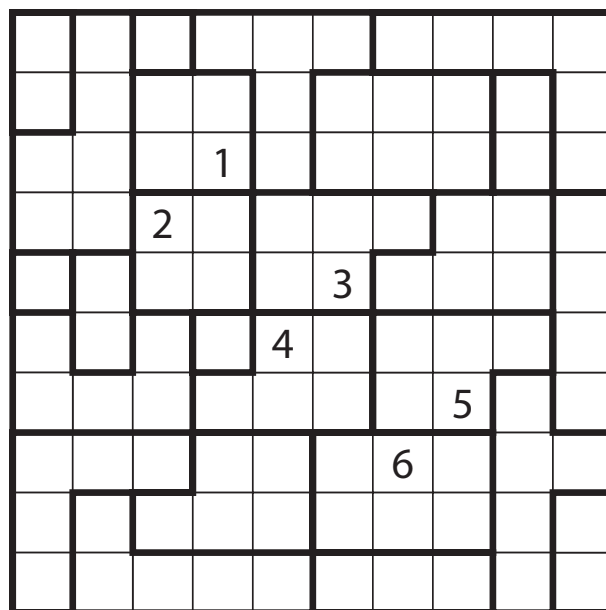
Example Answer: 121314, 213241

25a →



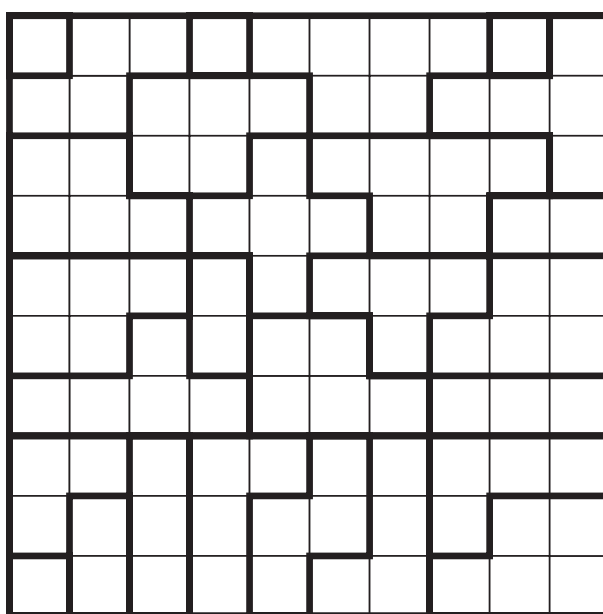
25b →

26a →



26b →

27a →



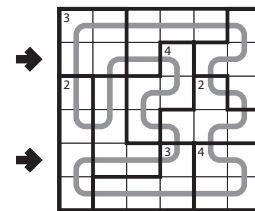
27b →



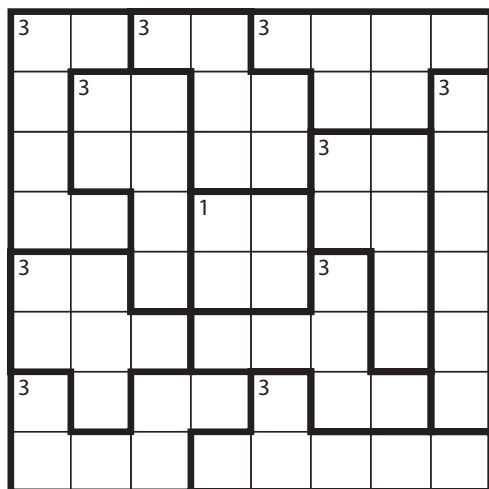
28-30. Maxi Loop (24, 33, 57 points)

Draw a single closed loop that only travels orthogonally and goes through every cell exactly once. A number given in a region indicates the longest (uninterrupted) length of the loop in that region.

Answer: For each designated row, enter its contents from left to right. Use 'I' for a cell in which the loop goes straight, and 'L' for a cell in which the loop turns.

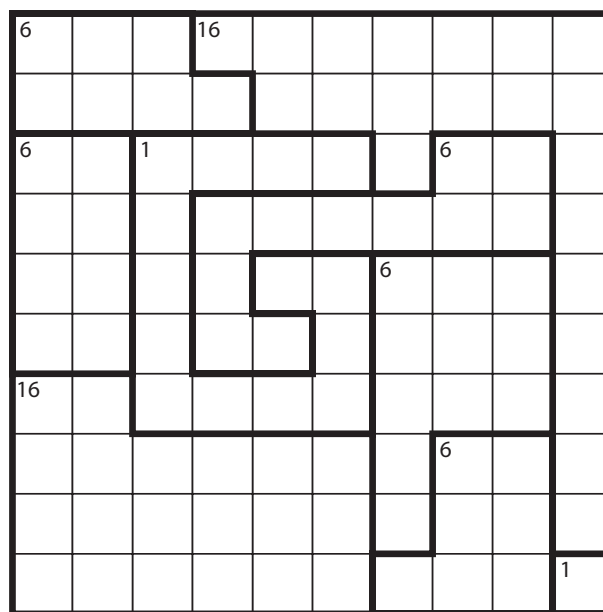


28a →



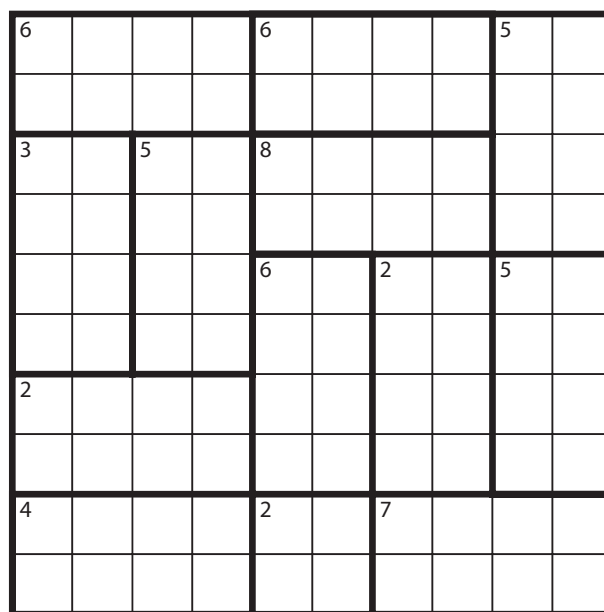
28b →

29a →



29b →

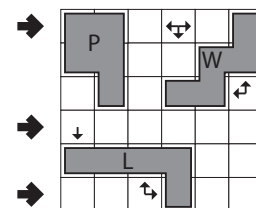
30a →



30b →

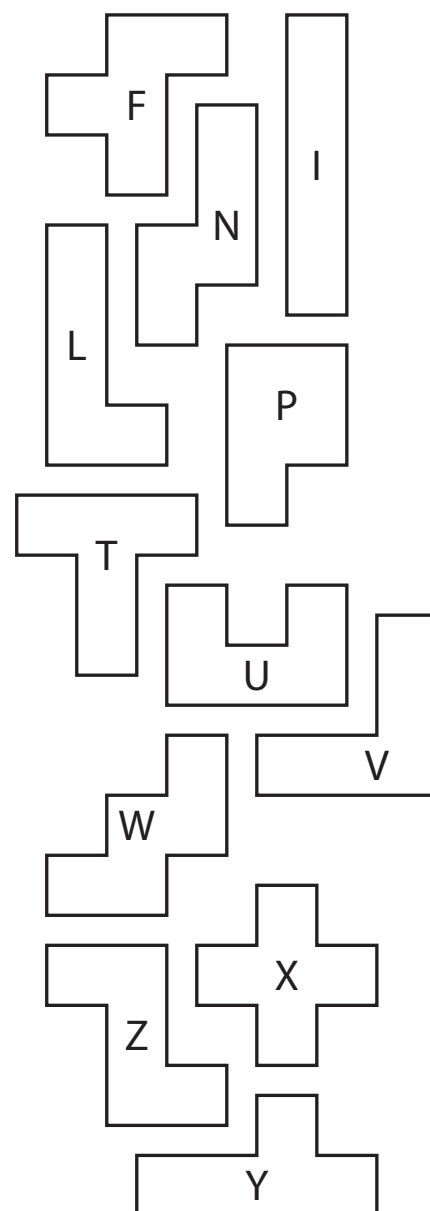
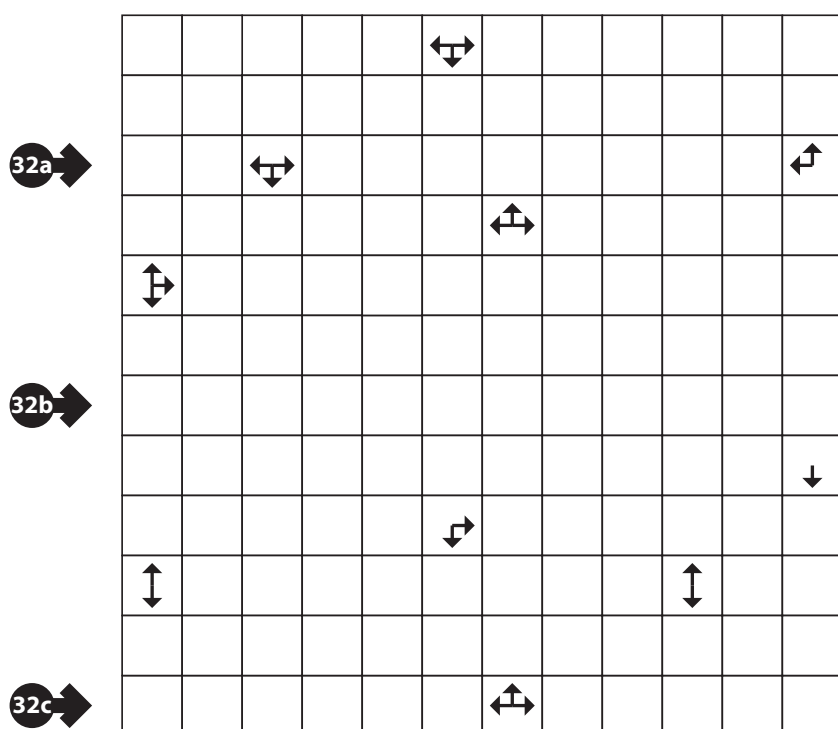
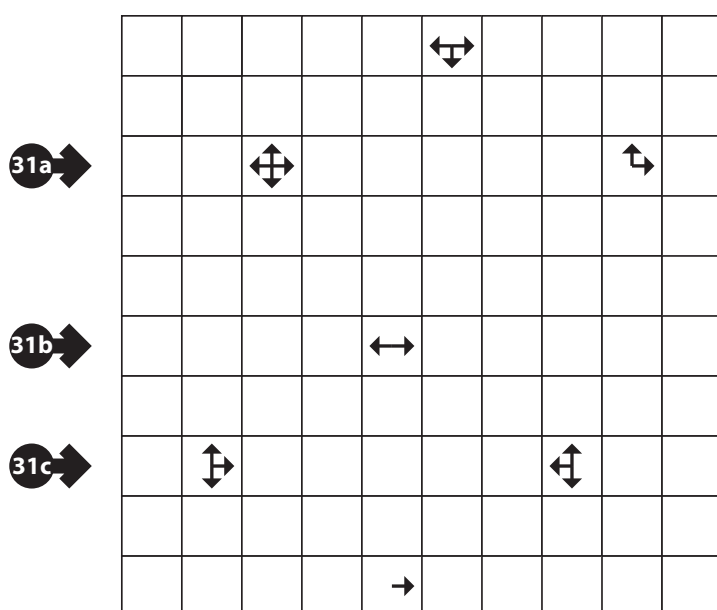
31-32. Pentopia (31, 47 points)

Shade some empty cells black so that the black cells form the shapes of different pentominoes. Each pentomino shape is used at most once, but can be rotated or reflected. Pentominoes cannot touch along edges or corners. Arrows in a cell indicate *all* closest shaded cell(s) to that cell along the four orthogonal directions (if there are multiple cells of the same closest distance to the cell, there will be multiple arrows).



Answer: For each designated row, enter the letter for each pentomino that appears in that row, from left to right. Within a row, if a pentomino occupies more than one cell, only enter that pentomino's letter once. If there are no pentominoes in that row, enter a single letter 'A'.

Example Answer: PW, A, L

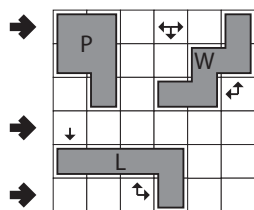


33. Pentopia (33 points)

Answer: For each designated row, enter the letter for each pentomino that appears in that row, from left to right. Within a row, if a pentomino occupies more than one cell, only enter that pentomino's letter once. If there are no pentominoes in that row, enter a single letter 'A'.

Example Answer:

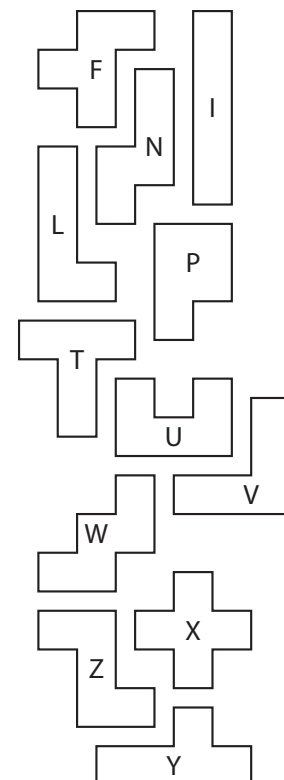
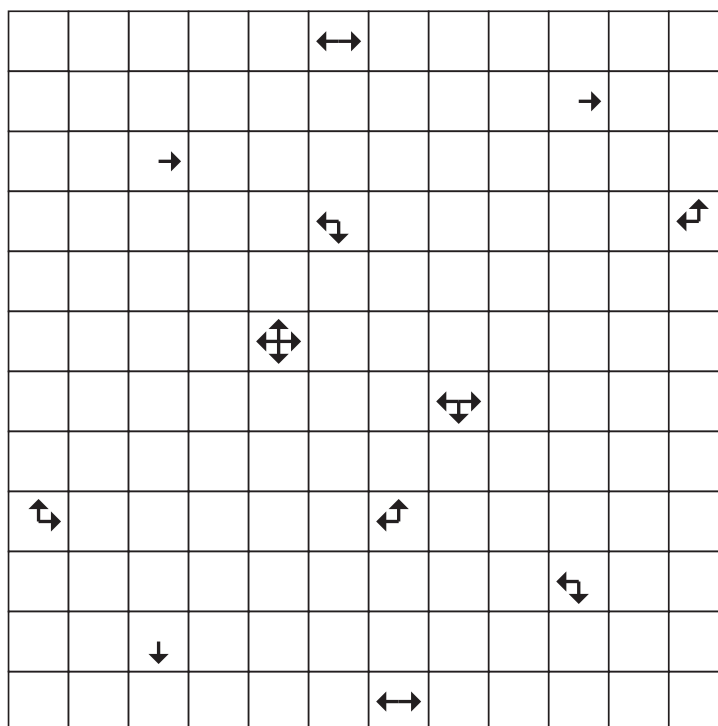
PW, A, L



33a →

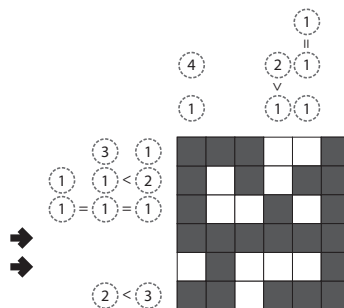
33b →

33c →



34. Greater Wall (22 points)

Shade some cells black. 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.



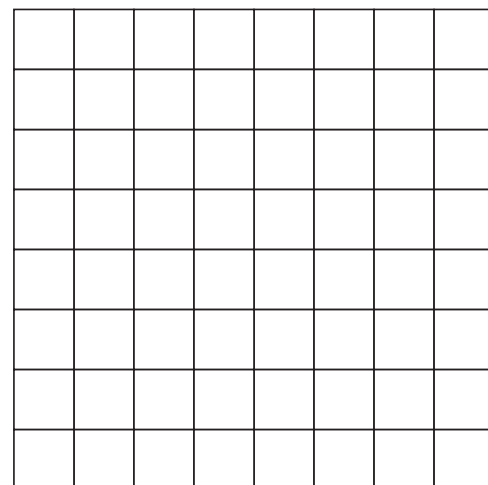
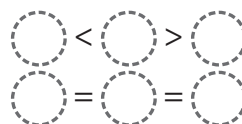
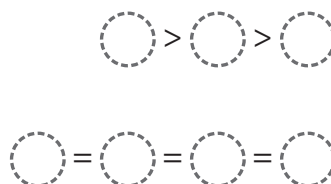
The circles left (or above) the grid are nonogram-like placeholders for the lengths of segments of black cells in that row (or column), in order from left-to-right (or top-to-bottom). Some comparative relationships between adjacent circles are given. Not all rows (or columns) have given circles, but if a row (or column) has circles, then all of its circles are given.

Answer: For each designated row, enter its contents from left to right. Use 'o' for an unshaded cell and 'x' for a black cell. (Answers that accidentally reverse x and o will be accepted.)

Example Answer: XXXXXX, OXOOOX

34a →

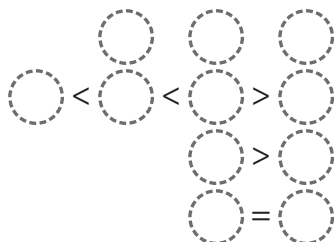
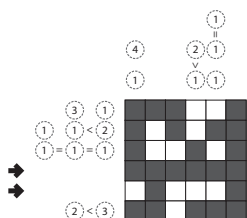
34b →



35-36. Greater Wall (32, 33 points)

Answer: For each designated row, enter its contents from left to right. Use 'o' for an unshaded cell and 'x' for a black cell. (Answers that accidentally reverse x and o will be accepted.)

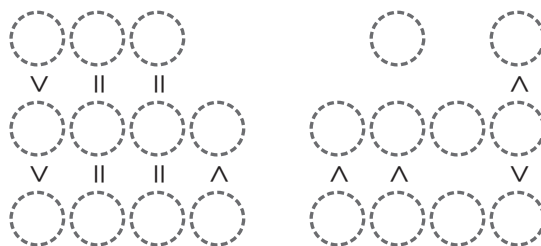
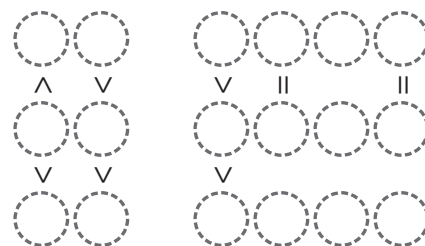
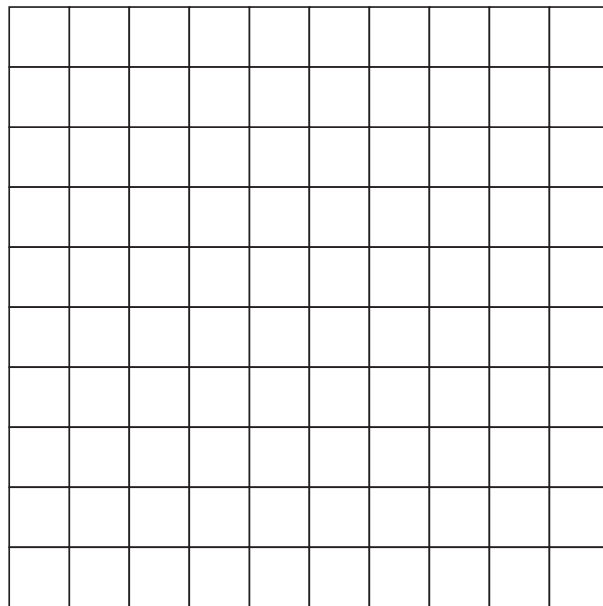
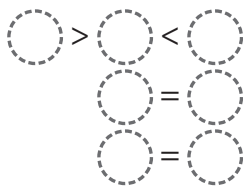
Example Answer: XXXXXX, OXOOOX



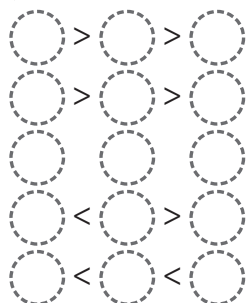
35a ➔



35b



36a 



36b 

