

WPF PUZZLE GP 2016 COMPETITION BOOKLET

Host Country: USA

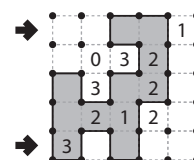
Thomas Snyder, Grant Fikes, Roger Barkan, Nick Baxter

Special Notes: Note that some puzzles in the Casual Section cannot be solved without the help of other puzzles. Scissors and tape are permitted for the Casual Section.

19. Slitherlink [Thomas Snyder] (12 points)

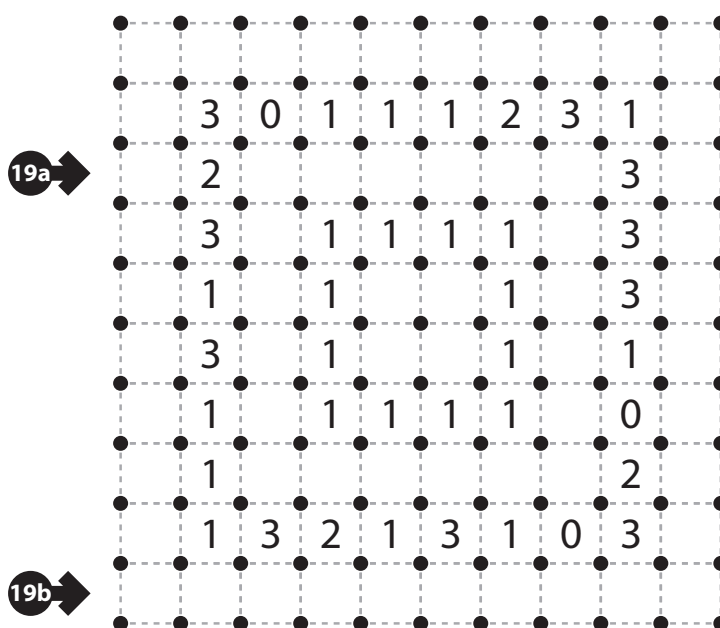
Draw a single, non-intersecting loop that only consists of horizontal and vertical segments between the dots. A number inside a cell indicates how many of the edges of that cell are part of the loop.

You may only draw on the grid along the dotted lines.



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

Example Answer: 2, 11

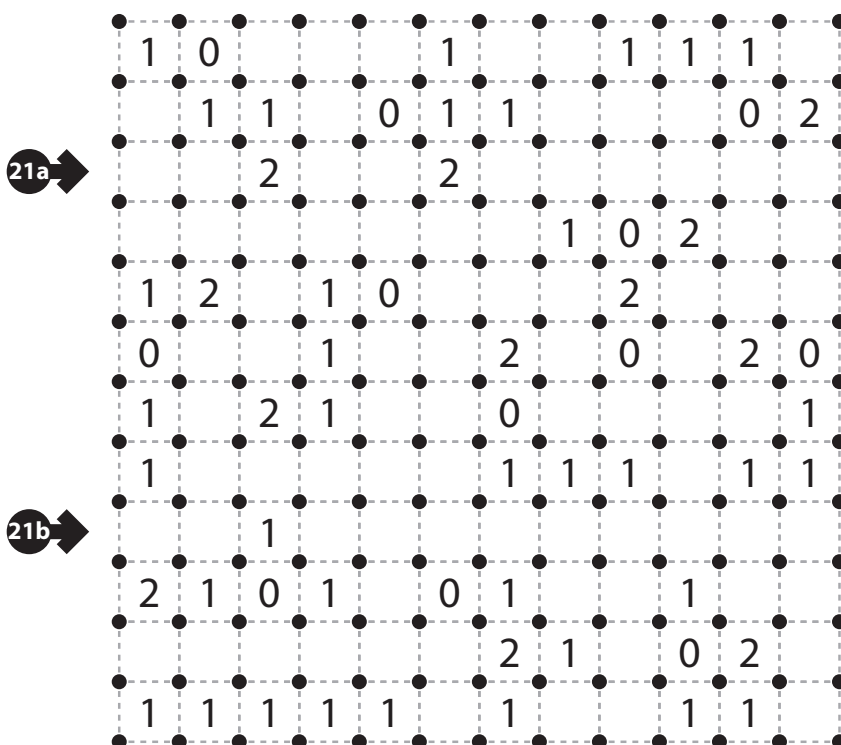
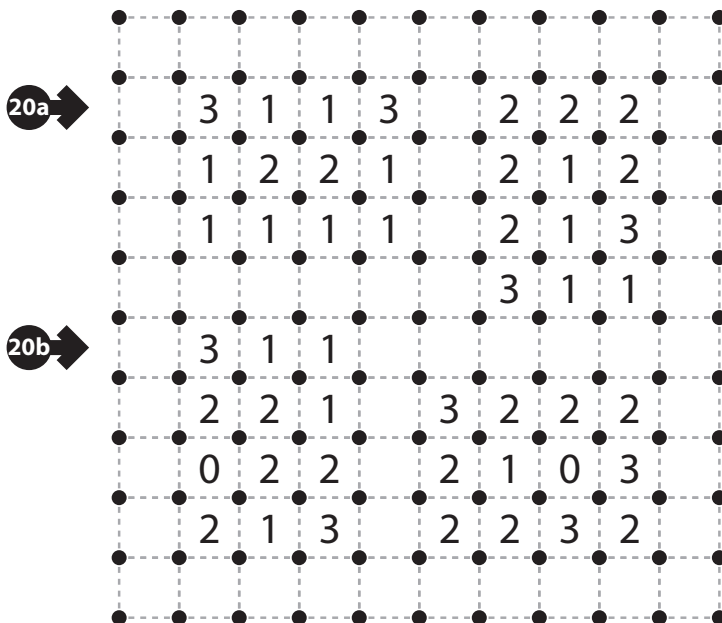
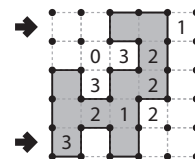




20-21. Slitherlink [Thomas Snyder] (27, 30 points)

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

Example Answer: 2, 11





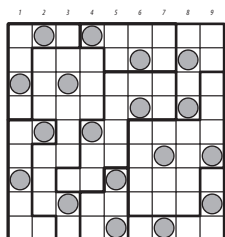
22-23. Star Battle [Thomas Snyder] (22, 70 points)

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.

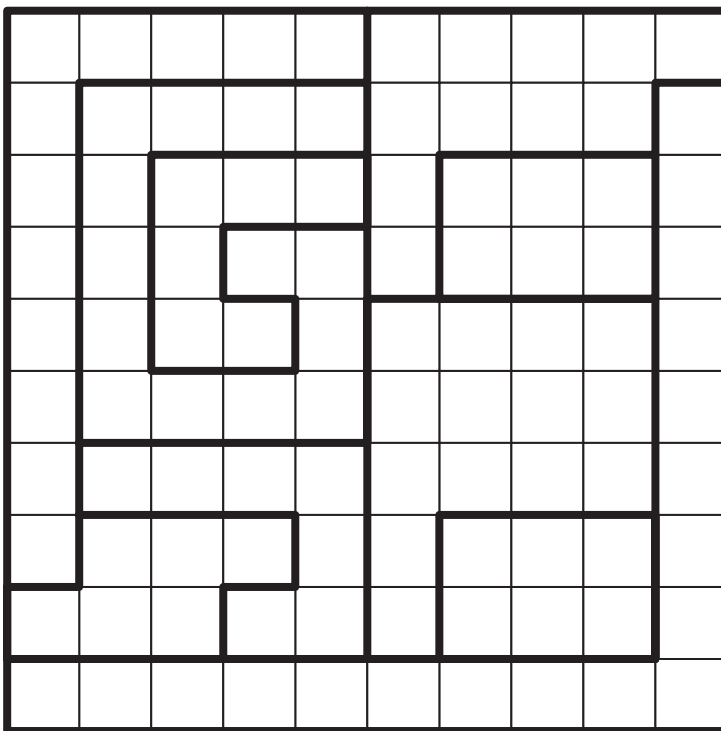
Answer: For each row from top to bottom, enter the number of the first column from the left where a star appears (the number on top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the star piece appears in column 10.

Example Answer: 261627135



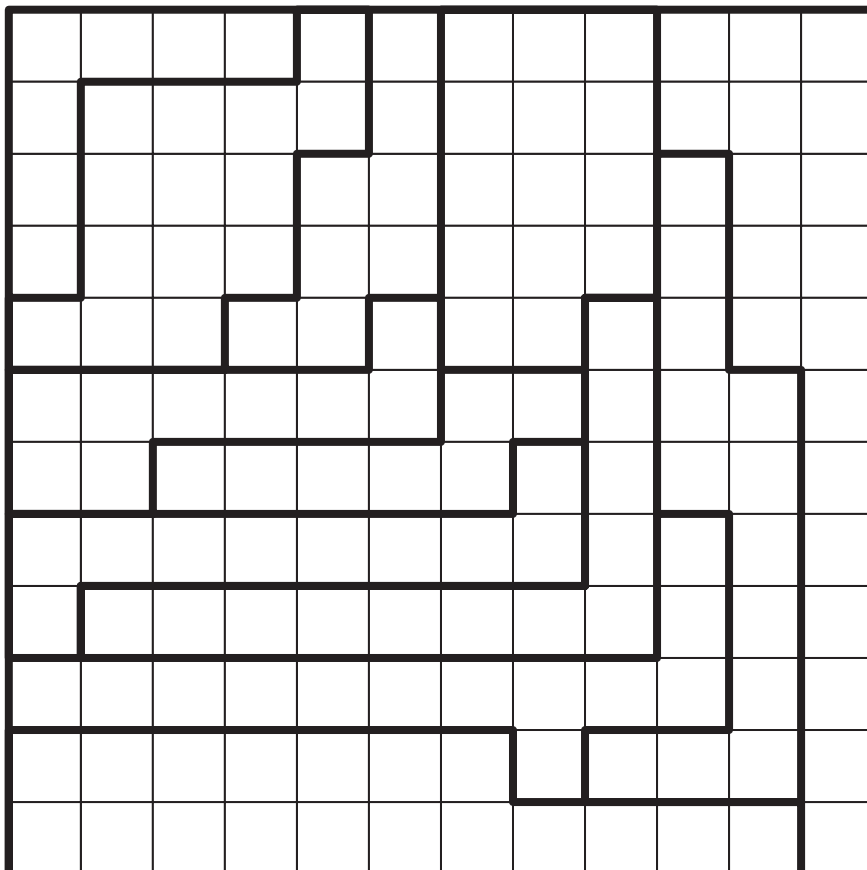
22

1 2 3 4 5 6 7 8 9 0



23

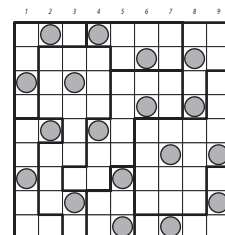
1 2 3 4 5 6 7 8 9 0 1 2



24. Star Battle [Thomas Snyder] (21 points)

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 star piece appears in column 10.

Example Answer: 261627135



24 1 2 3 4 5 6 7 8 9 0 1 2 3

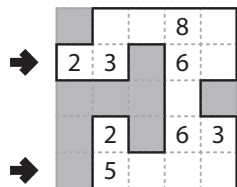


25-26. Cave [Roger Barkan] (49, 46 points)

Shade some cells to leave behind a single 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 cells connected in line vertically and horizontally to the numbered cell *including the cell itself*.

Answer: For each designated row, enter the length in cells of each of the cave segments (*not the shaded cells outside the cave*) from left to right. Use only the last digit for two digit numbers; e.g., use '0' for a segment of length 10. If there are no cells belonging to the cave in the row, enter a single digit '0'.

Example Answer: 22, 4



25a →

			3					6
	3			8				
8								
	5			5			4	
		7						
					4			
	6		3				8	
								5
			4				7	
6					7			

25b →

26a →

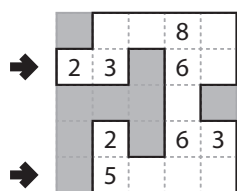
5								5
		9		5		5		
							9	5
					7	11		7
9			5	7				
	9	9						
			5		7		5	
	5							5

26b →

27. Cave [Thomas Snyder] (69 points)

Answer: For each designated row, enter the length in cells of each of the cave segments (*not the shaded cells outside the cave*) from left to right. Use only the last digit for two digit numbers; e.g., use '0' for a segment of length 10. If there are no cells belonging to the cave in the row, enter a single digit '0'.

Example Answer: 22, 4



27a →

		5					5	
						5		5
5								
	5		10	9	8			
		5	10					5
			10	9	8			
5					7		5	
			6	6	7		5	
								5
5			5					
	5						5	

27b →

28. TomTom [Thomas Snyder] (8 points)

Place a number from 1 to X into each cell so that each number appears exactly once in each row and column. (X is the number of cells in each row.) The number in the upper-left corner of each outlined region indicates the value of one of the four basic operations applied to all numbers in the region, starting with the largest number for subtraction and division (e.g., 1, 2, 4 with division has a clue of $2 \div$ as $4 \div 2 \div 1 = 2$). The operation may or may not be given in the region, but at least one of the four operations must apply. Numbers may repeat within a region.

Answer: For each designated row, enter its contents, from left to right.

Example Answer: 45213, 54132

{1-5}

³⁺ 2	³ 3	³³ 5	4	1
1	^{3000x} 2	3	5	4
4	5	2	1	3
5	³⁻ 4	1	³ 3	2
³⁺ 3	1	4	2	5

→

→

{1-5}

5		5		5
5				
				5
5				
	5		15	

28a →

28b →



29-30. TomTom [Thomas Snyder] (17, 89 points)

Answer: For each designated row, enter its contents, from left to right.

Example Answer:

45213, 54132

{1-5}

³⁺ 2	³ 3	³³ 5	4	1
1	^{3000x} 2	3	5	4
4	5	2	1	3
5	³⁻ 4	1	³ 3	2
^{3±} 3	1	4	2	5

29a →

29b →

{1-6}

14		15		16	
	30		30		
2		15			6
	2			1	
16					16
		6			

30a →

30b →

{1-8}

	12		22			32	
		32		500			
							18
26					240		
	42		36				
	23				63		



31-32. Nanro Signpost [Thomas Snyder] (53, 72 points)

Label some cells with numbers such that each bold region contains at least one labeled cell. Each number (including any given numbers) must equal the total count of labeled cells in that region; for some regions, that number is given to you in the upper-left cell of the region (but not which cells are labeled). When two labeled cells from different regions are connected orthogonally, they must contain different numbers. All labeled cells are connected orthogonally. No 2×2 group of cells can be entirely labeled.

While not required, it may be helpful to shade in the unlabeled cells (as in the displayed solution).

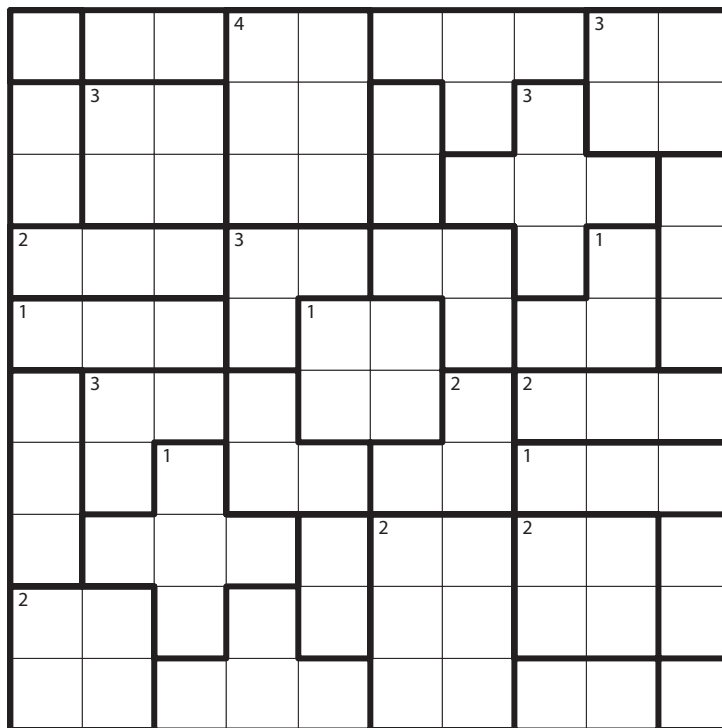
Answer: For each designated row, enter its contents, from left to right. Use 'x' for an unlabeled cell. Use only the last digit for two-digit numbers; e.g., use '0' for a cell labeled with 10.

Example Answer: 4x221x, x1x2x3

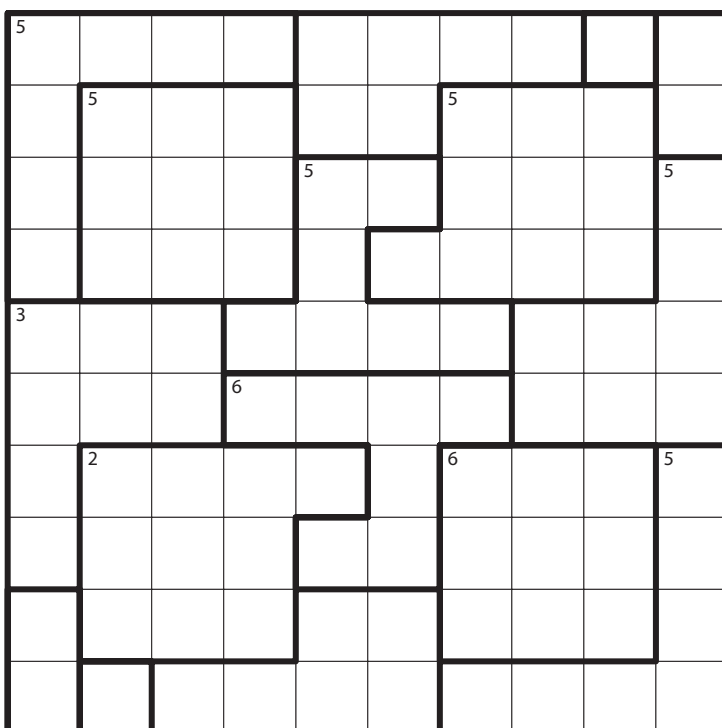
→

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

→



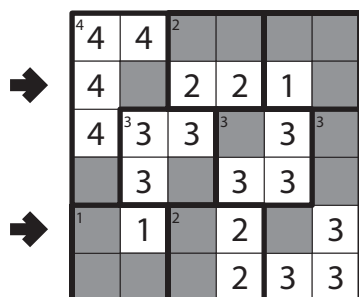
31b →



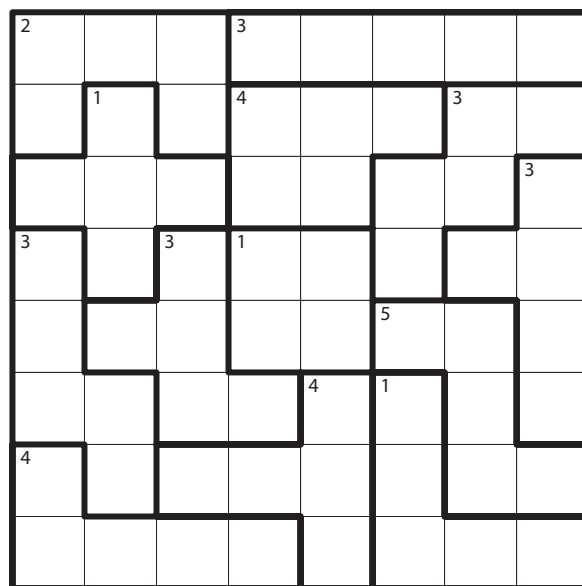
33. Nanro Signpost [Thomas Snyder] (14 points)

Answer: For each designated row, enter its contents, from left to right. Use 'x' for an unlabeled cell. Use only the last digit for two-digit numbers; e.g., use '0' for a cell labeled with 10.

Example Answer: 4X221X, X1X2X3



33a →



33b →

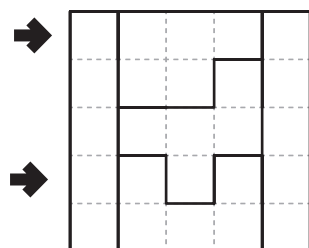
34. Pentominous Borders [Grant Fikes] (20 points)

Divide the grid into pentominoes such that every cell in the grid is part of exactly one pentomino. Pentominoes of the same shape (rotations and reflections of a pentomino count as the same shape) cannot touch each other along an edge (but they may touch diagonally). Some borders are given in the grid. Each border must separate two pentominoes. (It is possible for some pentomino shapes to never appear in the grid, or more than once.)

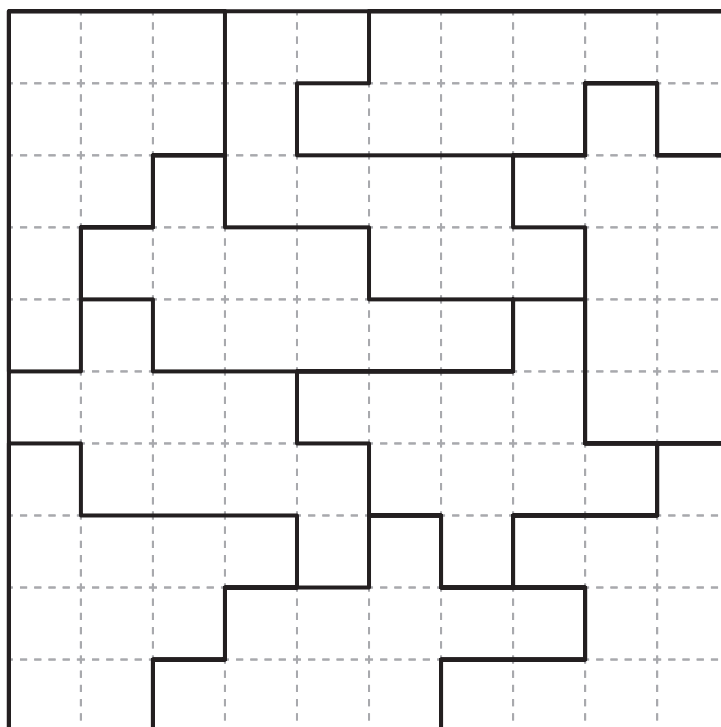
The list of pentominoes is only used for entering your answer.

Answer: For each designated row, enter the letter for the pentomino that each cell belongs to, from left to right.

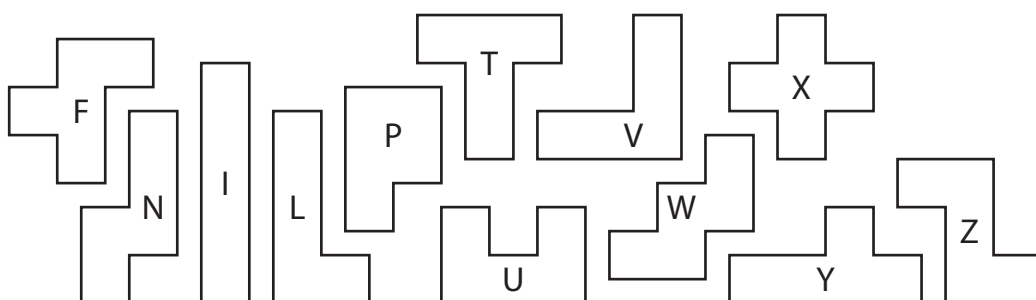
Example Answer: IPPPI, IUFUI



34a →



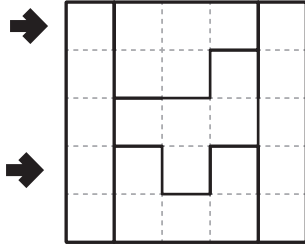
34b →



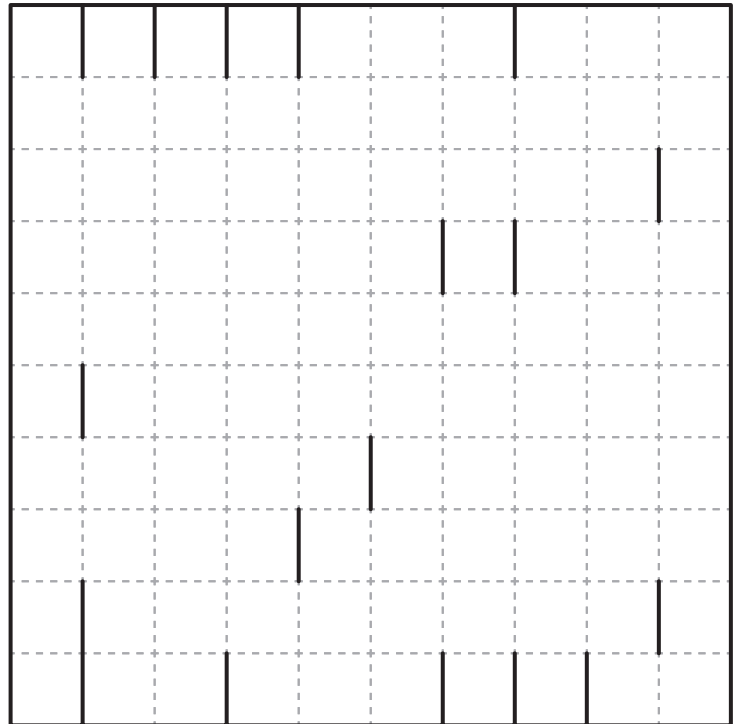
35-36. Pentominous Borders [Grant Fikes] (26, 22 points)

Answer: For each designated row, enter the letter for the pentomino that each cell belongs to, from left to right.

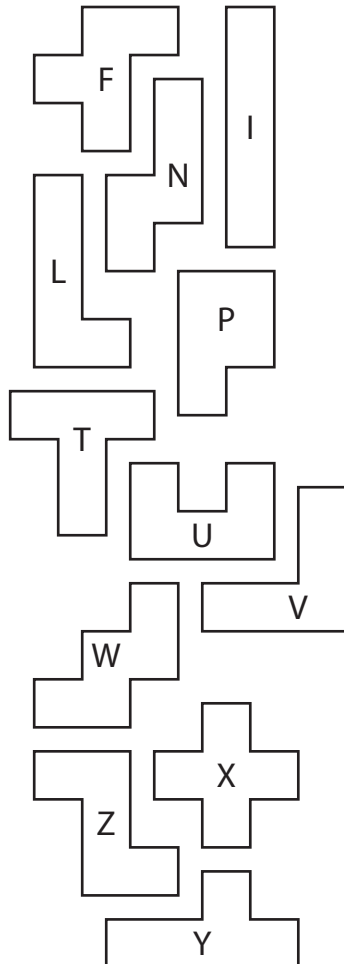
Example Answer: IPPPI, IUFUI



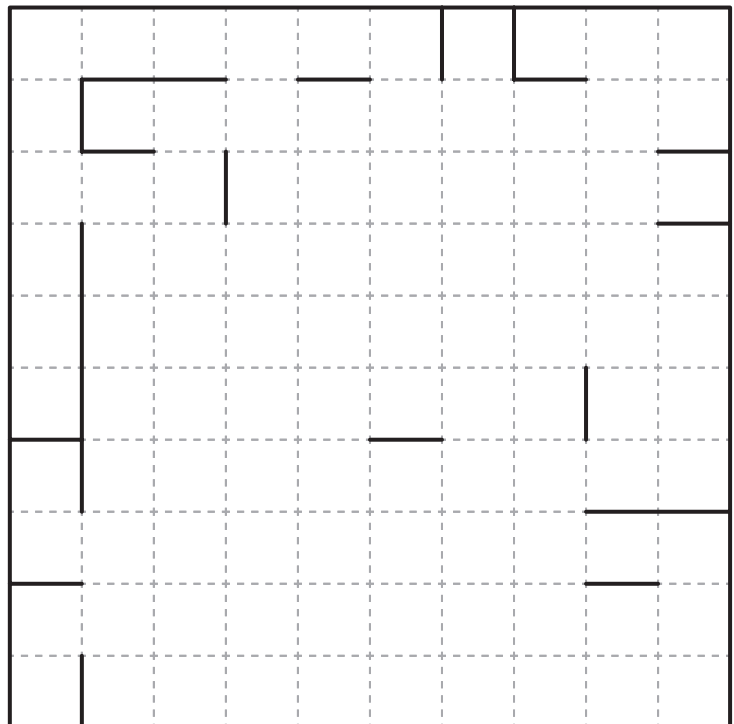
35a →



35b →



36a →



36b →