WPF SUDOKU/PUZZLE GRAND PRIX 2016

ROUND 5 CASUAL

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.

1-5. Escape the Grand Prix [Nick Baxter, Thomas Snyder] (57, 15, 3, 3, 3 points)

6. Escape the Grand Prix: Mastermind [Thomas Snyder] (76 points)

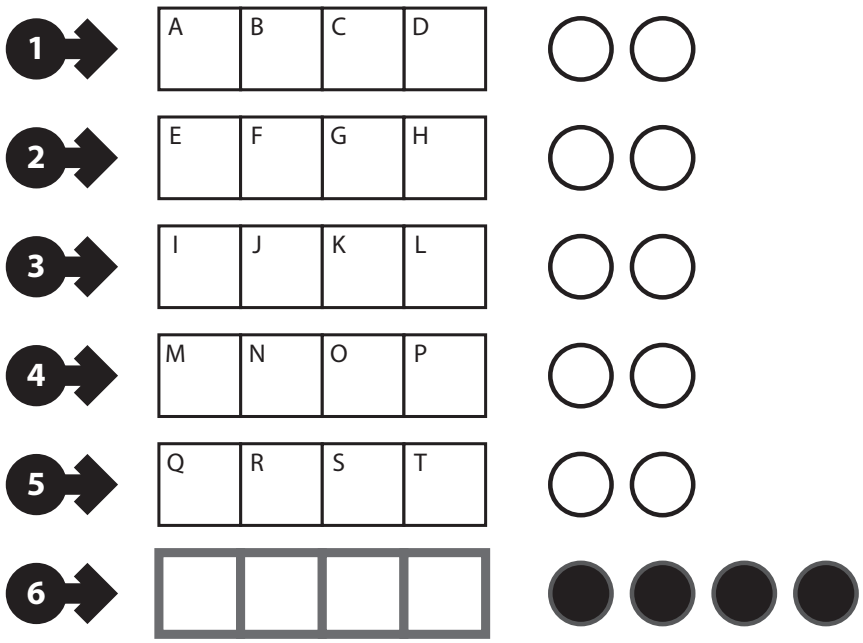
You are trapped in a room with a stack of puzzles, wondering if you'll be able finish all of them. Between you and the end is one Mastermind puzzle. But it seems to be in code, with twenty different letters corresponding to different digit values from 1 to 9 (e.g., X = 2 or Y = 6). Perhaps solving the other puzzles, some normal in appearance and others with some of the same code letters, will help. Not all puzzles will be useful to crack the code, but you never know where important clues will be found so search everywhere. Can you figure out what digit each letter stands for and "Escape the Grand Prix" before time runs out?

Partial credit will be given for finding the correct digits matching each Mastermind row. Each Mastermind row has its own point value. Points will be given for a row as long as at no more than one digit is incorrect; for instance, if a row has value 1234, you would get credit for 1237 or 1734 (but not 1243).

Answer: For each Mastermind row, enter the decoded digits.

Each row represents a guess at a secret code. A black dot represents a digit in the guess that is in the same position as a digit in the secret code. A white dot represents a digit 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 12334 and the codeword was 53363, the puzzle would display 1 black and 1 white). Each digit in the secret code appears in at least one guess.

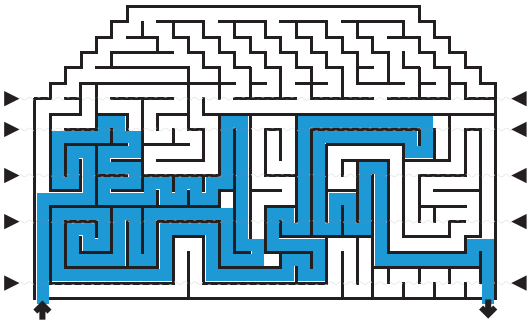
The last line with empty space for the secret code is given for aesthetic reasons only. The point value of this puzzle is artifically inflated to encourage a correct solve and your escape from the Grand Prix!



Answer: Enter the secret code.

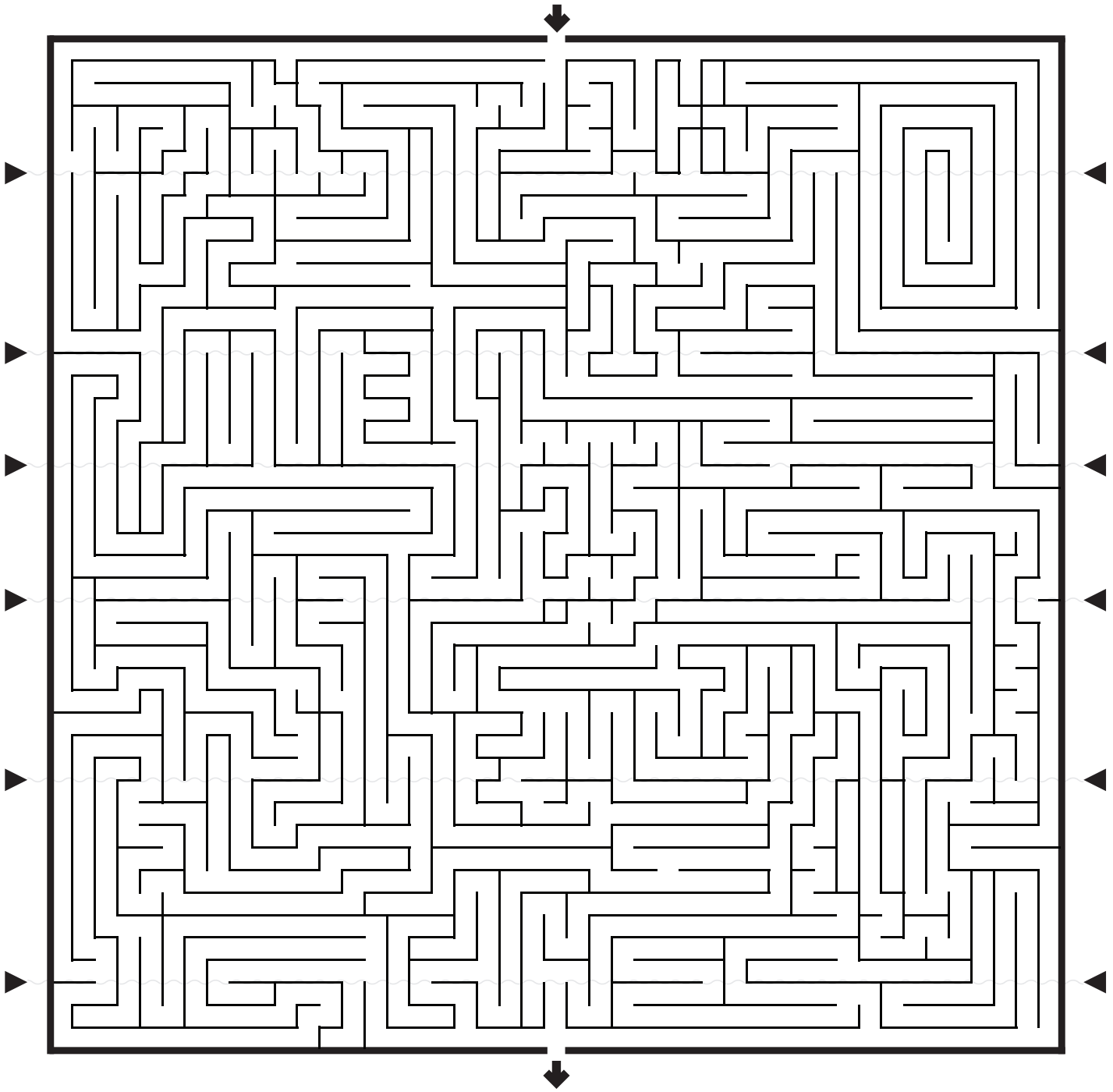
7. Maze [Thomas Snyder] (20 points)

Find a path through the maze from the entrance to the exit.



Answer: For each designated line from top to bottom, enter the number of times the path crosses that line. Use only the last digit for two digit numbers; e.g., use '0' for a line that is crossed 10 times.

Example Answer: 06062



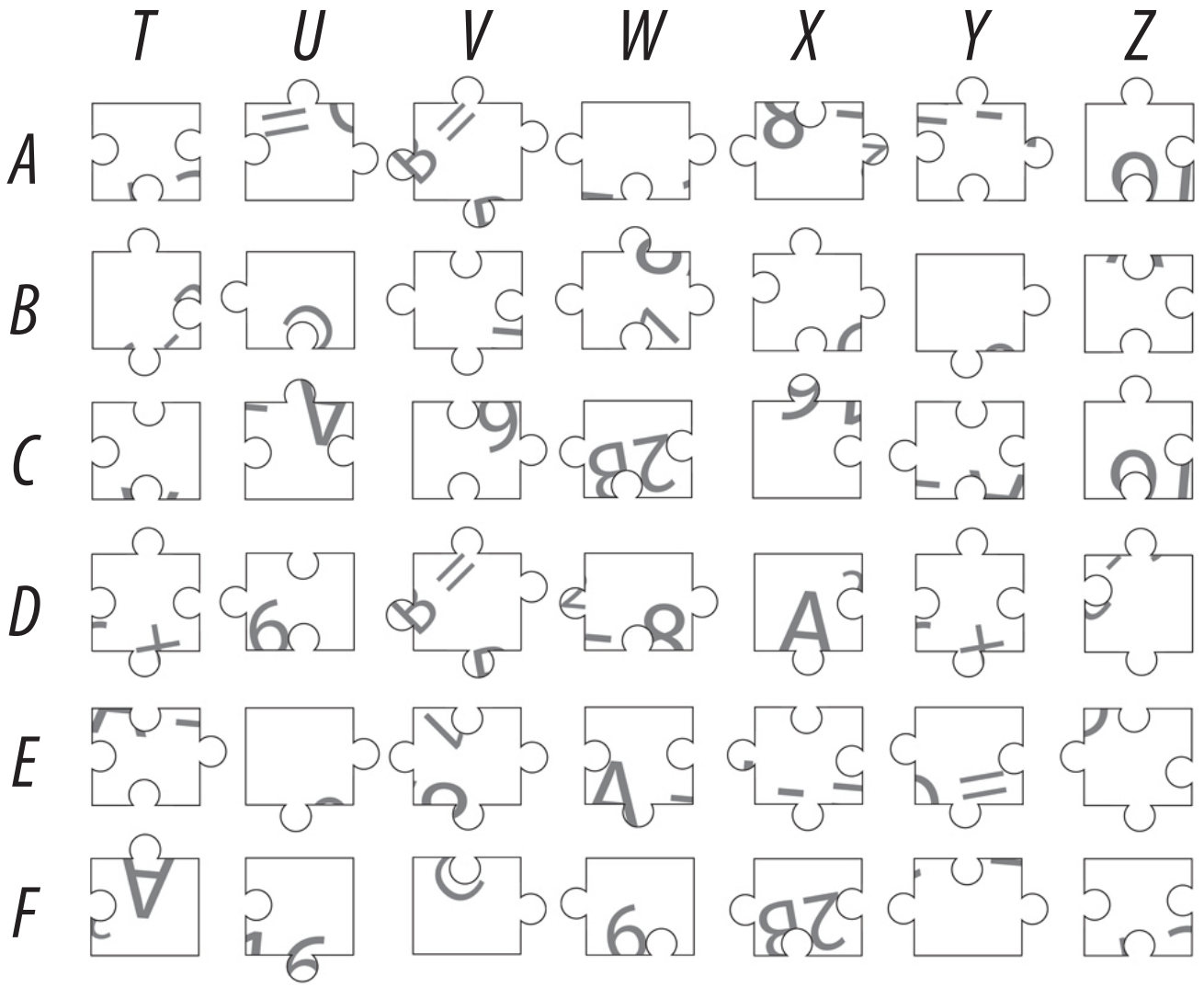
8. Old Maid [Thomas Snyder] (13 points)

Each box in the grid contains an image. Each image, except two, appears in two boxes. Find the two boxes that contain images that only appear once. Images can be rotated but not reflected.

Answer: For each image that only appears once, enter its row letter followed by its column letter.

Example Answer: BR, CS

	P	Q	R	S
A	≤	Z	Y	Λ
B	Y	X	T	V
C	Z	X	W	U



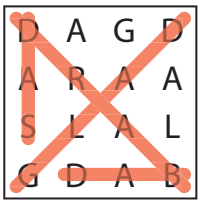
9. Word Search [Thomas Snyder] (41 points)

Locate the list of words in the grid. Words always appear in a line in one of the eight standard directions.

Two words will not be found in the grid.

Answer: Enter the two words that cannot be found in the grid.

Example Answer: GRAB, SLAB



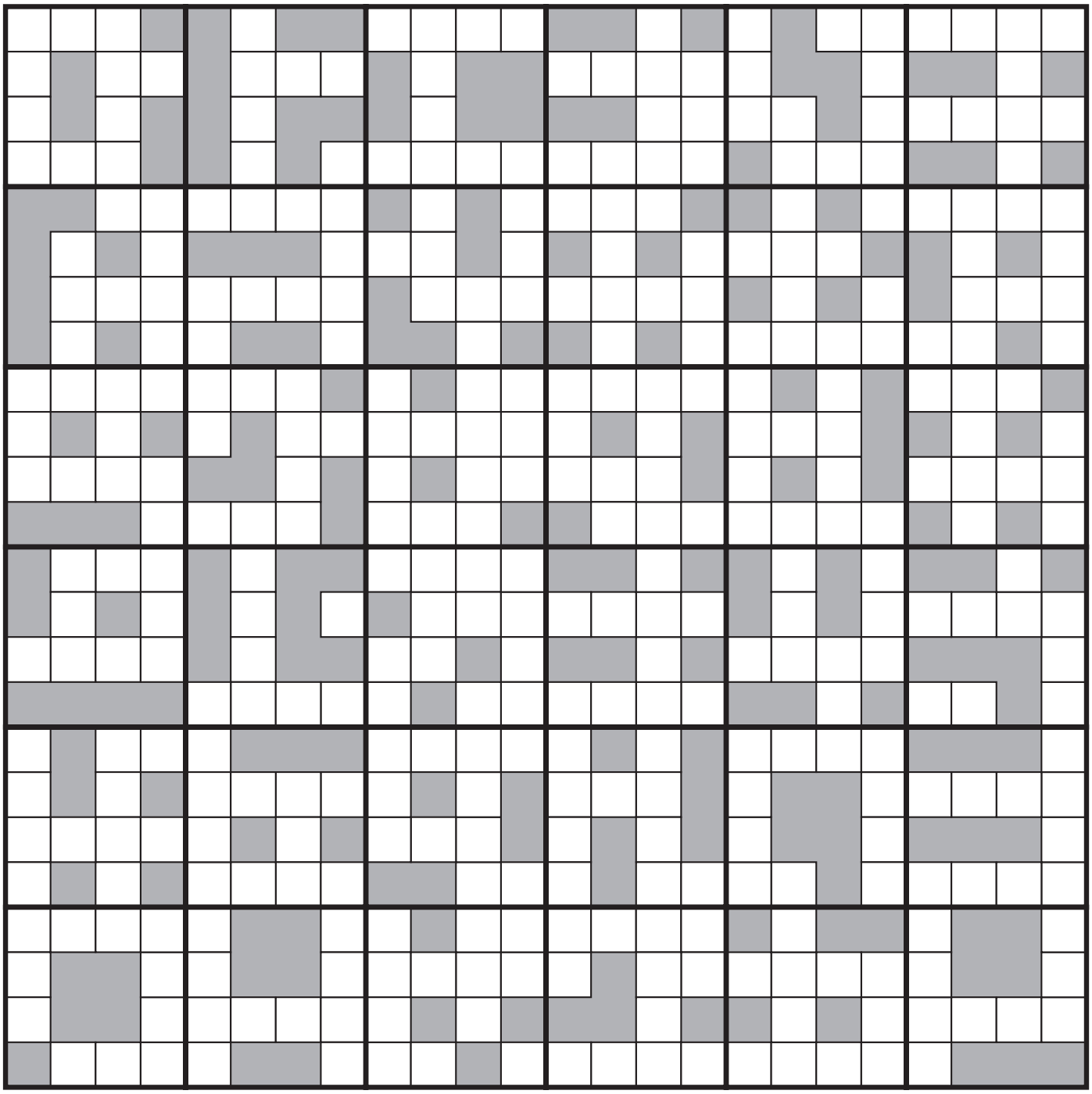
GLAD
GRAB
SAD
SLAB
BAD
DRAB

A B Y A W R O N
R J I T R E A T T Z P M
R I W T A K C U F A M V Q E
J E M G A D V A F M U L A H U K
I L F K L O N B F B E R P B A T D G
Y R C S O E R M E I R M U O C U S P K C
H O D L K O C B A D A N A C R A Y V K A
H E A N M E N L T B I X O V I U I F L Z Q M
K H D A T C I S U C E N V P A M I D E A U A
C R B L I R U O C E P D S E C U A R P O T S
O U U I Z I L I T H O I C T A P M A I D N I
V P B Z R O A U P N N C A J D B R S E E T H
G F C A C E P E G D A W I E A N S T R I L E
L Y U W S S U L O U M U F X T E I E A F M C
A G F S W R O N S G B V E R E H V H I R S D
W M X O T E Y E G H A N A E M R O L S K
G P C B S D L V R O C Z O A F Y W A U I
R W I O S C K E M U S U H P A N G T
A V D G U B N A P A J C E I Z S
T W P E N A O R D G V T A T
M U W B D O T R Z H L A
E N A I B S U R

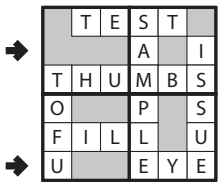
CANADA
CHAD
CROATIA
CUBA
GHANA
GRENADA
HAITI
HUNGARY
INDIA
INDONESIA
ITALY
JAPAN
MALI
MEXICO
NORWAY
SWAZILAND
ZAMBIA

10. Fold-In Criss-Cross [Thomas Snyder] (34 points)

Instructions are on the next page.



10. Fold-In Criss-Cross [Thomas Snyder] (34 points)

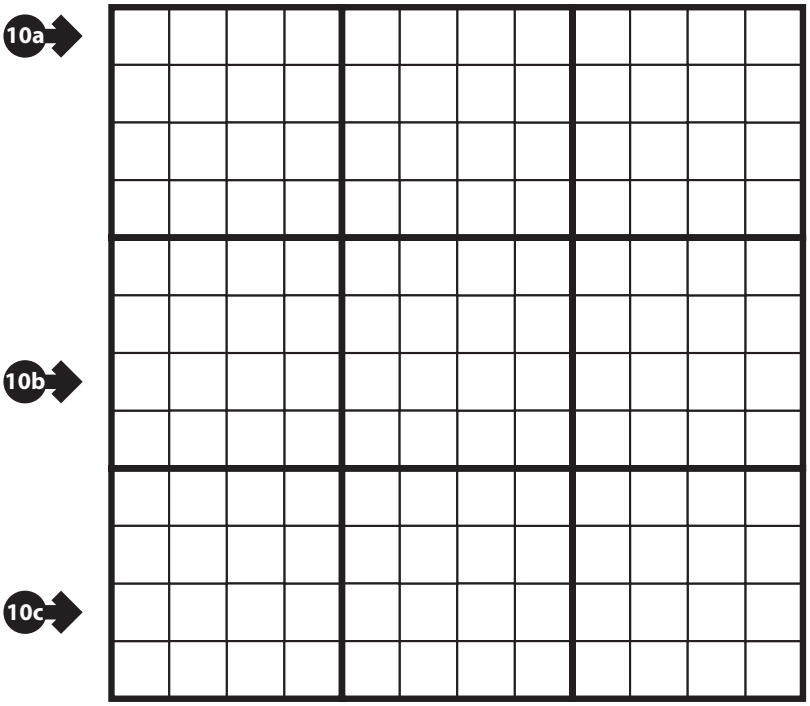


Fold the paper to hide 4×4 regions (bordered by thick lines), resulting in a 12×12 crisscross grid. Do not change the orientation of any of the cells. Then enter the given words in the grid, one character per cell, to complete the crisscross. Each word is used exactly once, and will either read left-to-right or top-to-bottom.

The blank 12×12 grid can be used to copy your grid and/or answer, and is necessary to figure out which rows to enter your answer for. The example puzzle uses 3×3 regions and a final 6×6 grid instead of 4×4 regions and a final 12×12 grid.

Answer: For each designated row, enter its contents from left-to-right. Skip past any unused cells.

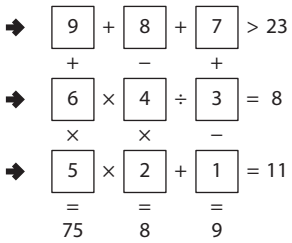
Example Answer: `AI,UEYE`



MAP
TUB
ECHO
FACT
APPLY
CLIMB
IVORY
SAMBA

AUTHOR
COOLER
PUZZLE
EXPLORE
MAMMOTH
THOUGHT
ETHERNET
SOLITAIRE
STATIONARY
CHAMPIONSHIP

11-12. Arithmetic Square [Thomas Snyder] (29, 15 points)

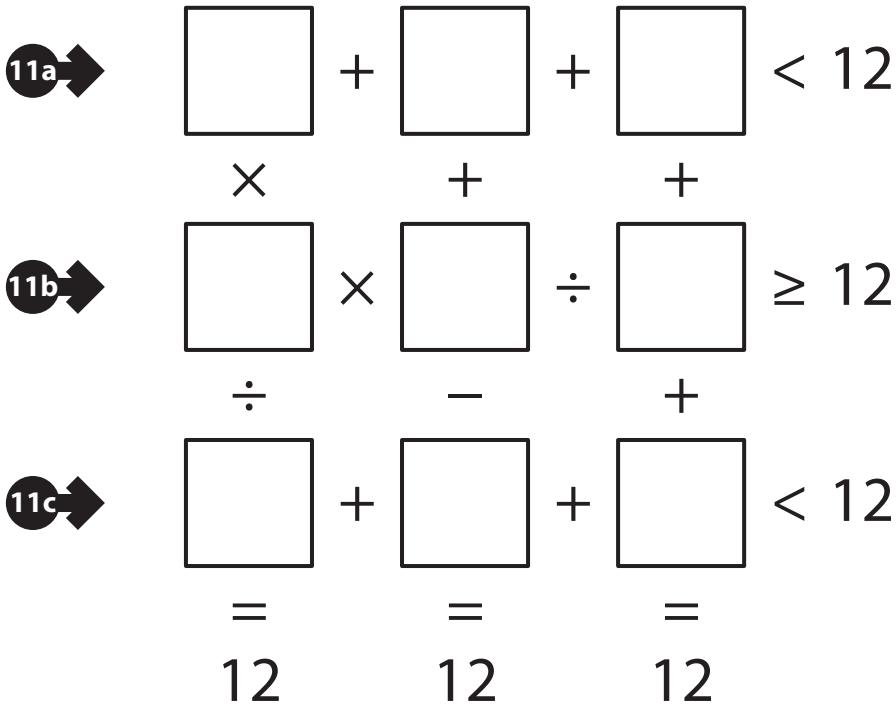


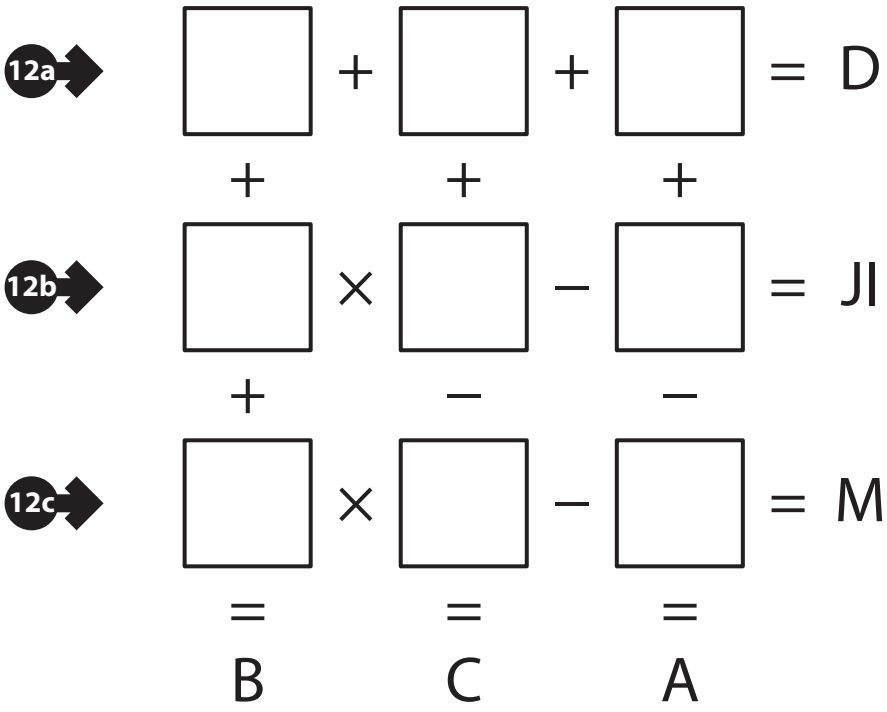
Place each number from 1 to 9 into the cells (a different single number in each cell) so that the indicated equations/relations are correct. Evaluate from left-to-right and top-to-bottom (ignoring usual order of operations).

It is possible for expressions and partial expressions to be negative or non-integral.

Answer: For each designated row, enter the contents of the cells, in order from left to right.

Example Answer: `987,643,521`





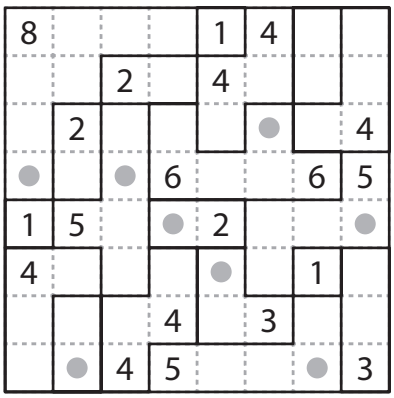
13-14. Fillomino [Thomas Snyder] (23, 38 points)

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.)

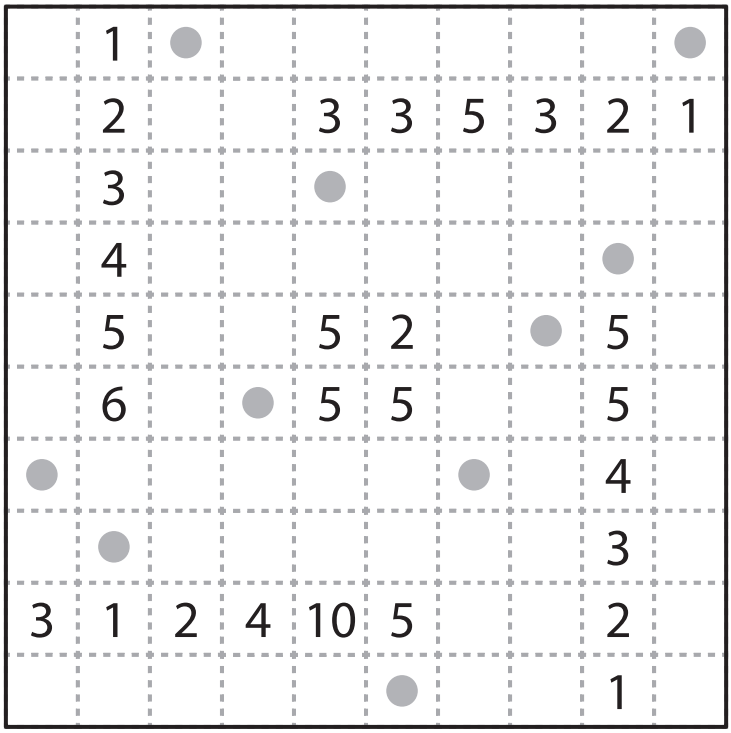
The dots in cells are only used for entering your answers.

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.

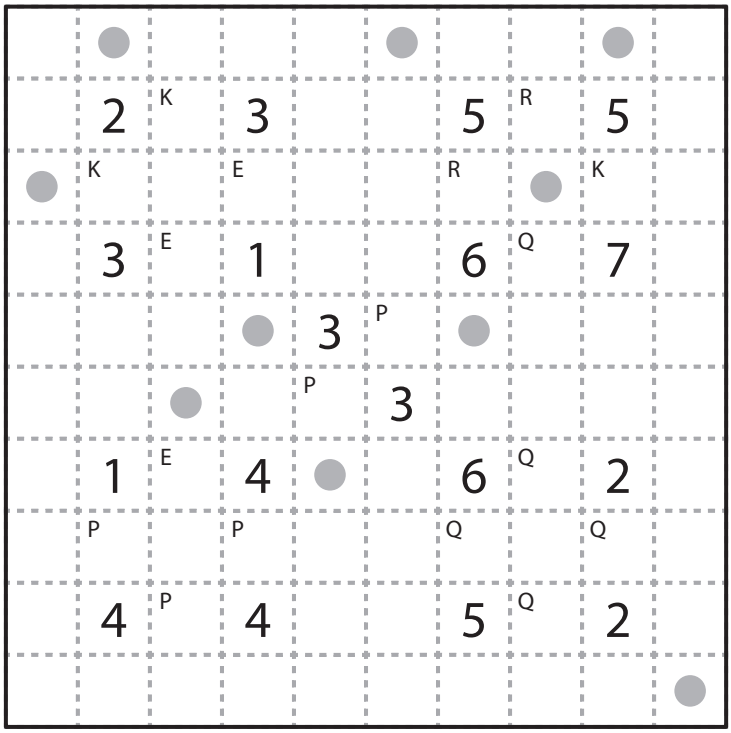
Example Answer: 82523655



8 2 5 2 3 6 5 5



13 ➡



14 ➡

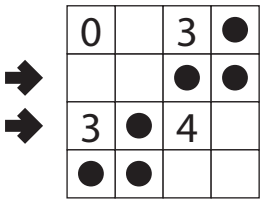
15-16. Minesweeper [Thomas Snyder] (14, 29 points)

Place mines into the unnumbered cells in the grid, at most one mine per cell, so that each number in a cell represents the number of mines adjacent to that cell (including diagonally adjacent cells).

The number of mines you must locate is NOT provided.

Answer: For each designated row, enter its contents from left to right. Use 'O' for a cell containing a mine and 'X' for a cell that does not contain a mine (but may contain a number).

Example Answer: XXOO, XOXX



15a

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

15b

	2		4	2	4	5		6	

									N
	F	O	O	F	F	H	H		
								H	
		4	3	4	3			O	
	3					4		H	
	4		N					H	
	3			N	H	H	H		

16a

	4								
		3	4	3	4	3	3	4	

16b

N									

17-18. Skyscrapers [Thomas Snyder] (41, 46 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 digits represent skyscrapers of their respective heights. The numbers outside the grid indicate how many skyscrapers can be seen in the respective row or column from the respective direction (smaller skyscrapers are hidden behind higher ones). Some digits may already be filled in for you.

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

Answer: For each designated row, enter its contents. Do *not* include any numbers outside the grid.

Example Answer: `45312,23541`