



WPF
SUDOKU/PUZZLE
GRAND PRIX
2017

ROUND 1C

WPF PUZZLE GP 2017 COMPETITION BOOKLET

Host Country: Serbia

Branko Ćeranić, Čedomir Milanović

Special Notes: Fill in the Blank and Count the Shapes will not be bonus-eligible (see <http://gp.worldpuzzle.org/content/rules> for more information on what this means). As a reminder, calculators and similar tools are NOT allowed for this competition.

***C1-3. Fill in the Blank [Čedomir Milanović] (2, 8, 13 points)**

Determine what should replace the "?" symbols to make the most sensible pattern.

Answer: What replaces the "?" symbols. Do not use any separating characters.

1 1, 3, 6, 11, 18, 29, ?, ?

2 7, 41, 12, 82, 53, 24, 94, ?, ?

3 2, 4, 2, 4, -4, 16, 8, 64, 32, ?, ?

C4. Old Maid [Čedomir Milanović] (13 points)

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

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

Example Answer: B3

	1	2	3
A	W	Z	Y
B	Y	X	Q
C	Z	X	W

4 1 2 3 4 5

A

B

C

D

E

5

4

3

2

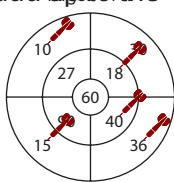
1

C5-6. Darts [Čedomir Milanović] (6, 15 points)

“Throw” the given number of darts onto the dartboard. Each dart must be thrown into a numbered region, and no two darts can be thrown into the same region. The sum of the numbers in the regions with darts must add up to the specified target score.

Answer: Enter the numbers in the regions with darts, from smallest to largest. Do not use any separating characters.

Example Answer:
1015183640



5 Target = 201



6 Target = 222



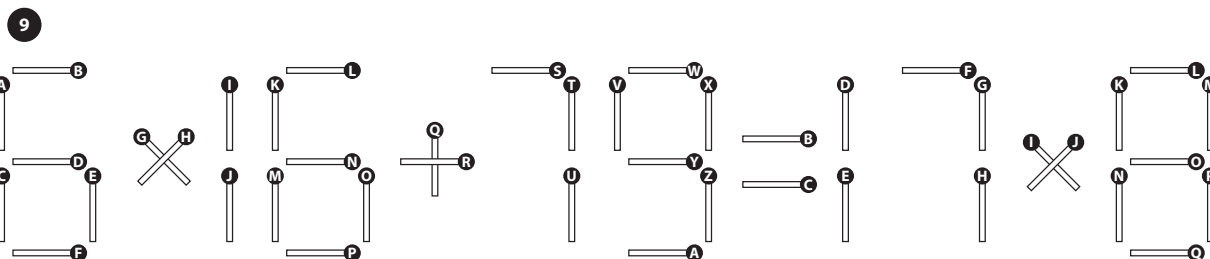
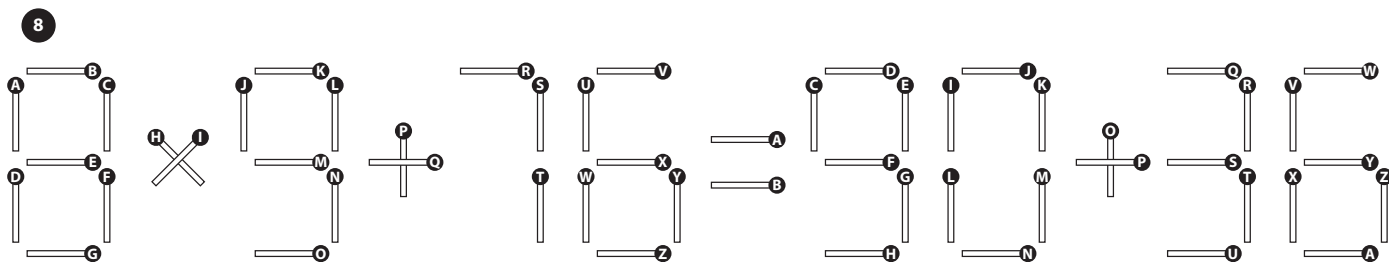
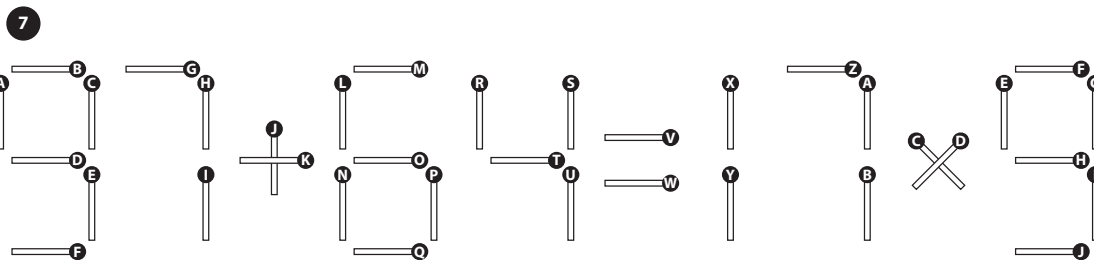


C7-9. Matches [Čedomir Milanović] (13, 20, 32 points)

Remove three matches so that the remaining matches express a correct arithmetic equality.

Answer: The letters of the three removed matches, in alphabetical order.

Example Answer: GJ

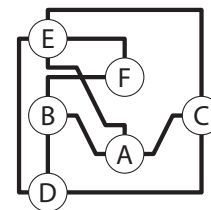
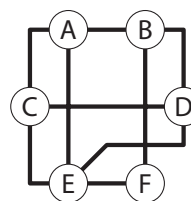


C10. Elastic Bands [Čedomir Milanović] (30 points)

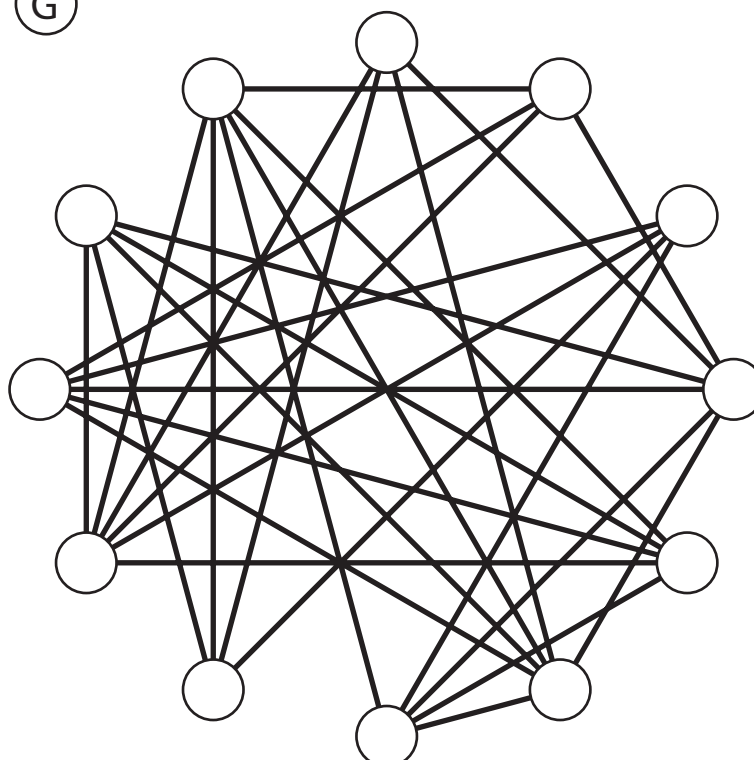
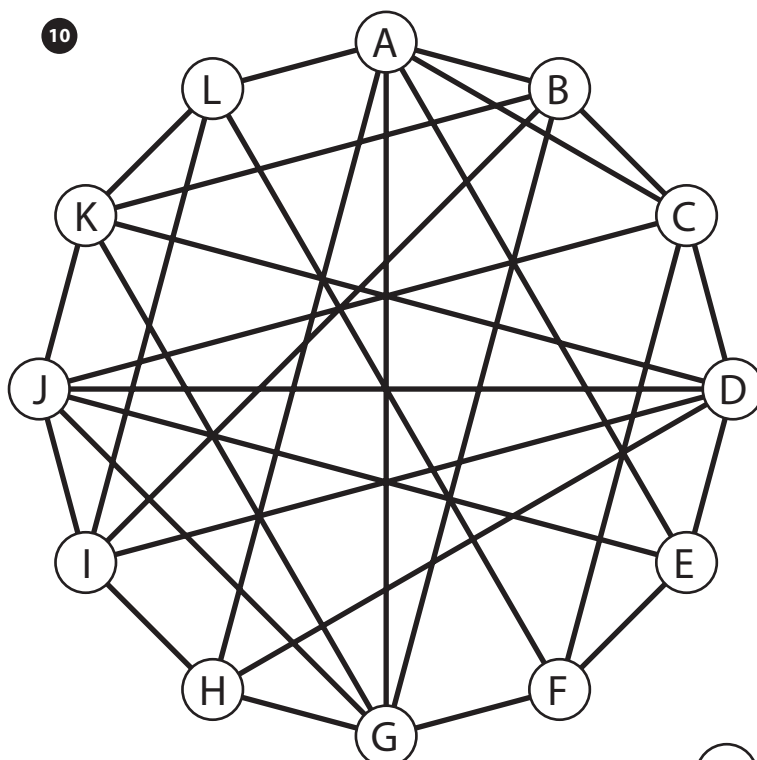
Fill in each circle with a letter so that the two networks are identical; that is, if two letters have a line connecting them in one network, then those two letters have a line connecting them in the other network, and vice versa.

Answer: Enter all the letters in the second network, starting at the top node and proceeding clockwise around the approximate ring of nodes. Include all given letters in your answer.

Example Answer: EFCADB



10




C11-12. Arithmetic Square [Čedomir Milanović] (15, 25 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 (ignore the usual precedence of the operators).

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

$$\begin{array}{l} \rightarrow \begin{array}{c} \boxed{9} + \boxed{8} + \boxed{7} > 23 \\ + \quad - \quad + \end{array} \\ \rightarrow \begin{array}{c} \boxed{6} \times \boxed{4} \div \boxed{3} = 8 \\ \times \quad \times \quad - \end{array} \\ \rightarrow \begin{array}{c} \boxed{5} \times \boxed{2} + \boxed{1} = 11 \\ = \quad = \quad = \\ 75 \quad 8 \quad 9 \end{array} \end{array}$$

$$\begin{array}{c} \text{11a} \rightarrow \begin{array}{c} \boxed{} - \boxed{} + \boxed{} = 1 \\ + \quad + \quad + \end{array} \end{array}$$

$$\begin{array}{c} \text{11b} \rightarrow \begin{array}{c} \boxed{} + \boxed{} \div \boxed{} = 2 \\ + \quad + \quad + \end{array} \end{array}$$

$$\begin{array}{c} \text{11c} \rightarrow \begin{array}{c} \boxed{} \div \boxed{} \div \boxed{} = 3 \\ = \quad = \quad = \\ 15 \quad 15 \quad 15 \end{array} \end{array}$$

$$\begin{array}{c} \text{12a} \rightarrow \begin{array}{c} \boxed{} \times \boxed{} - \boxed{} = 12 \\ - \quad + \quad + \end{array} \end{array}$$

$$\begin{array}{c} \text{12b} \rightarrow \begin{array}{c} \boxed{} \times \boxed{} + \boxed{} = 13 \\ + \quad + \quad - \end{array} \end{array}$$

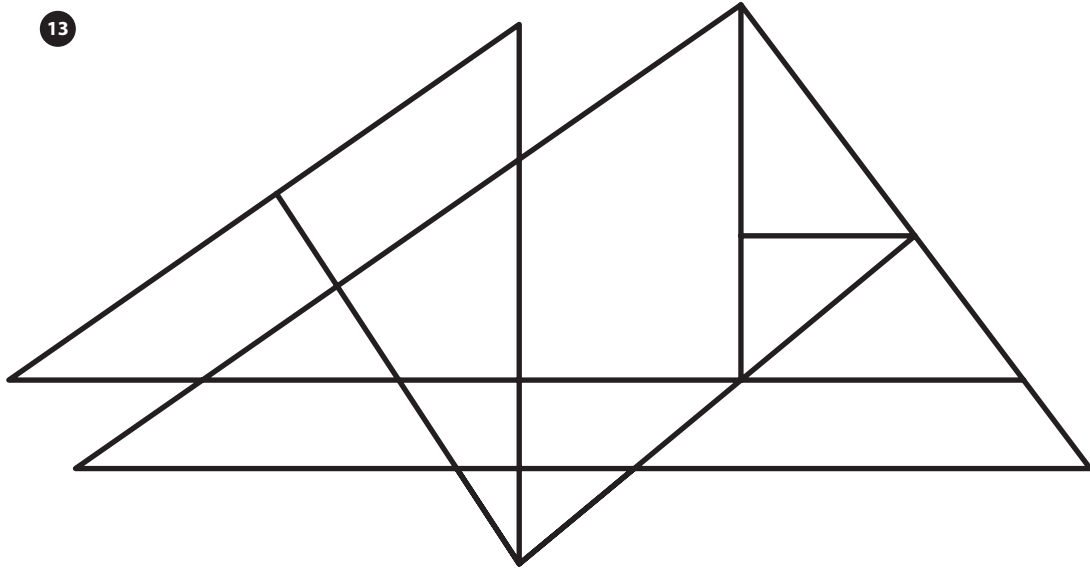
$$\begin{array}{c} \text{12c} \rightarrow \begin{array}{c} \boxed{} + \boxed{} \times \boxed{} = 14 \\ = \quad = \quad = \\ 13 \quad 13 \quad 13 \end{array} \end{array}$$

***C13-14. Count the Shapes [Čedomir Milanović] (16, 12 points; half-credit for an answer that is 1 away from the correct answer)**

Determine the number of triangles of any size in the diagram.

Answer: The number of triangles.

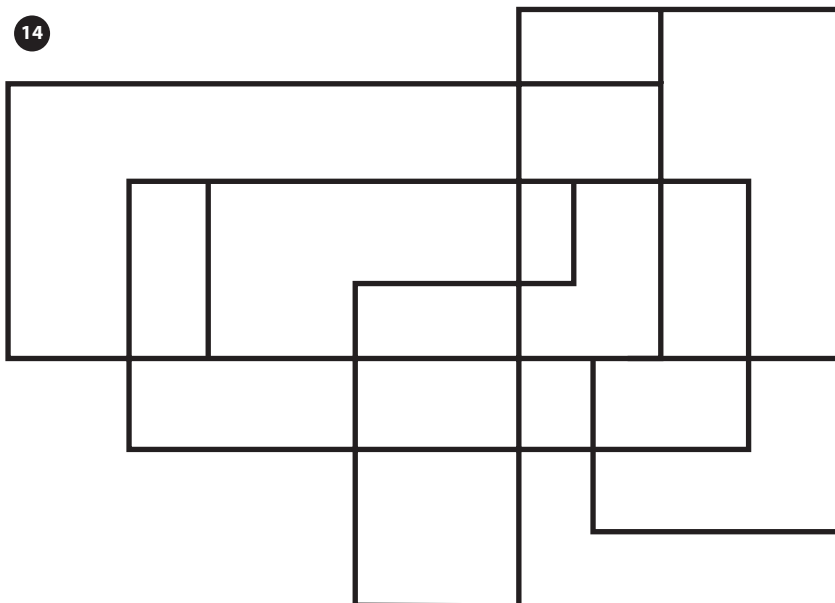
13



Determine the number of rectangles of any size in the diagram.

Answer: The number of rectangles.

14



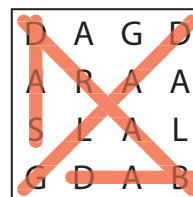


C15. Word Search [Čedomir Milanović] (83 points)

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

Answer: Enter the unused letters in the grid. Enter the rows from top-to-bottom and each row from left-to-right.

Example Answer: AGAL



GLAD
SAD
BAD
DRAB

15



- | | | | |
|-----------|-----------|----------|-----------|
| ABIDJAN | BREST | HAIFA | ODENSE |
| ABUJA | BRISTOL | HANOI | OMSK |
| ADEN | BRNO | IBADAN | OSLO |
| ALANYA | BUJUMBURA | JACKSON | PARIS |
| ARAD | CADIZ | KATOWICE | PATRAS |
| ARNHEM | CAIRO | KOLKATA | REIMS |
| BAGHDAD | CALI | LIMASSOL | RENNES |
| BALTIMORE | DIJON | LINZ | RENO |
| BASEL | DUBAI | MILAN | SOCHI |
| BERGAMO | DUNDEE | MONZA | TAMPA |
| BILBAO | DURBAN | NAGANO | TIMISOARA |
| BOGOTA | GABORONE | NASSAU | TOLEDO |
| BONN | GENEVA | NICE | VITORIA |
| BRAILA | GRANADA | NICOSIA | |

C16-17. Products [Branko Ćeranić] (35, 41 points)

Fill in some cells with numbers. Each number from 1 to X must appear exactly once, where X is twice the number of rows in the grid. Numbers cannot share a cell. Each row must contain exactly two numbers. Each column must contain exactly two numbers. (There are no similar restrictions on the diagonals.) When given, the numbers below and to the right of the grid indicate the multiplicative product of all numbers in that row, column, or long dotted-line diagonal, respectively. (The product of one number is the number itself; the product of no numbers is 1.)

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 number appears (the number on top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first number appears in column 10.

Example Answer: 13212

	1	2	3	4	5	6	
10						1	10
		9				8	72
	3	6					18
2				5			10
	7			4			28
20	21	54	20	8	300		

16

	1	2	3	4	5	6	7	8	9	0	
											48
											28
											52
											133
											15
											144
											132
											170
											54
											100
	34	48	60	105	209	90	168	32	20	117	

17

	1	2	3	4	5	6	7	8	9	0	
											20
											80
											152
											119
											20
											42
											143
											162
											48
											90
	112	60	10	198	240	323	18	18	104	70	20

C18. Products [Branko Ćeranić] (120 points)

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

Example Answer: 13212

	1	2	3	4	5	6
10						1
			9			8
	3		6			
2				5		
	7			4		
20	21	54	20	8	300	

18

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	324
																161
																25
																273
																56
																90
																513
																48
																286
																56
																510
																480
																240
																264
																90
																87
75	36	140	70	110	368	36	570	144	435	221	22	728	567	96	140	



C19-20. Scrabble [Čedomir Milanović] (19, 31 points)

Put at most one letter into each cell so that the given words can be read either across (left-to-right) or down (top-to-bottom) in consecutive cells in the grid. Every word must appear in the grid exactly once, and no other words may appear in the grid (that is, if two cells are filled and are adjacent, then there must be a word that uses both of them). Every word must have either a blank cell or the edge of the grid before and after it. All letters must be (orthogonally) connected in a single group.

19a →

19b →

		W												
						P								
											F			
			G											
											P			

Answer: For each designated row, enter its contents from left to right, ignoring any blank cells. If all cells in the row are blank, enter a single letter 'X'.

- | | | |
|-----------|-----------|-----------|
| ALPACA | DOLPHIN | PORCUPINE |
| BEAR | DRAGONFLY | SHEEP |
| CAMEL | FINCH | SLOTH |
| CROCODILE | JELLYFISH | SNAKE |
| DOG | LION | WOMBAT |

Example Answer:

CYPRUSO, ONMUO, AUR, GA

M														
A		S		L										M
C	Y	P	R	U	S									O
E		A		X										L
D		I	C	E	L	A	N	D						
O		N		M		U		O						
N				B		S		V						
I		C	R	O	A	T	I	A						
A				U		R								
		G	E	O	R	G	I	A						
						G		A						

20a →

20b →

N														E
		S												
				E										
						R								
								B						
	G								I					
		P									A			
S														A

- | | | |
|----------|---------|------------|
| ALBANIA | GUINEA | RWANDA |
| CAMBODIA | INDIA | SEYCHELLES |
| CANADA | NIGER | SINGAPORE |
| ESTONIA | POLAND | SWEDEN |
| GAMBIA | ROMANIA | USA |