

# UK Puzzle Championship 2013

INSTRUCTION BOOKLET

Friday 5th - Monday 8th July 2013

## **Competition Rules & General Information**

## REGISTRATION

To participate in the championship, you will need to register online at the UKPA forums - <u>http://forum.ukpuzzles.org</u>. During the registration process, you will be required to enter your real name, and your nationality. International participants are welcomed.

## PREPARATION

In order to participate in the championship, you will need access to a printer (with sufficient toner/ink!) to print out the puzzle booklet. To solve the puzzles you will need a pen or a pencil, and possibly an eraser.

## **COMPETITION SCHEDULE**

- The password protected puzzle booklet will be made available online at <a href="http://www.ukpuzzles.org/contests.php?contestid=32">http://www.ukpuzzles.org/contests.php?contestid=32</a> on Thursday 4th July. It is recommended that you download this password-protected pdf before you start the competition.
- The competition will start at 12:00 BST (11:00 GMT) on Friday 5<sup>th</sup> July when the password for the pdf will be made available. Upon retrieving the password, you will have 2.5 hours to solve the puzzles, and submit your answers via the entry page. You will be able to submit answers until 23:55 BST (22:55 GMT) on Monday 8<sup>th</sup> July; as such it is highly recommended that you retrieve the password and start solving before 21:25 BST (20:25 GMT).
- The results will be publicly announced at <a href="http://www.ukpuzzles.org">http://www.ukpuzzles.org</a> a few days after the contest. The highest scoring UK participant will be declared the 2013 UK Puzzle Champion and the top three UK participants will be selected for the UK team for the WPC to be held in China. In the event of a tie, placings will be determined by latest submission time. UK participants: Please contact <a href="mailto:liane@ukpuzzles.org">liane@ukpuzzles.org</a> to state whether you would like to be considered for the UK team (or not) for World Championships.

## UK Puzzle Championship 2013 – Instruction Booklet ENTERING & SUBMITTING ANSWERS

To submit your answers, you will need to go to the answer submission page found at <a href="http://www.ukpuzzles.org/contests.php?contestid=32">http://www.ukpuzzles.org/contests.php?contestid=32</a> Here, for each puzzle, you will be required to enter the relevant answer keys into the form on the page. The answer keys for each puzzle are defined as part of the instructions.

Upon hitting the submit button, your answers will be sent to the server. You may submit answers as many times as you like, but only the last received keys will be subject to scoring.

Unless specifically stated otherwise, multiple answer key parts must be entered in the solution box separated by a comma, with no spaces. Malformed entry keys may be credited later in full or part at the judges' discretion.

If you have any urgent matters arising during the contest, please email <u>liane@ukpuzzles.org</u> <u>UK participants only</u> may call either 07901 648010 or 07707 992420 in an emergency.

In the event of the web hosting service failing during your participation, email me your answer keys before your 2.5 hours is completed. Answers submitted this way will only be accepted if a hosting failure, or equivalent, has occurred.

## CODE OF CONDUCT

All participants are expected to solve the puzzles honestly and fairly. You are not permitted to use any external solving aids of any form or receive assistance from any other individual.

If you have any questions related to this Instruction Booklet, you can and should freely discuss these matters in the competition discussion thread at <a href="http://forum.ukpuzzles.org/">http://forum.ukpuzzles.org/</a>

It is strictly forbidden to discuss any details of the live championship puzzles, or make their contents known to others, directly or implicitly, via any medium while the contest is live.

The Championship organisers reserve the right to disqualify any participant judged to have acted with improper conduct.

POINTS & BONUSES

Points will be awarded according to the table on the following page. Participants who submit error free entries to all of the puzzles before the allotted two and a half hours are up will be awarded 3 points per minute, as recorded by the last submission time to the server. Late submissions will not be accepted (as in a WPC environment), so you are advised to submit answers as you solve them, rather than waiting until your time is running out. A bonus of 1 point per minute saved will be awarded if 24 or 25 puzzles are solved correctly.

N.B. - although the points allocated to a particular puzzle are a general indication of its difficulty and the time expected to solve it, it is possible that your individual experience may vary greatly. Please read the instructions fully and <u>carefully</u>!

## **Puzzle Examples**

The remainder of this instruction booklet gives the instructions as they will appear in the competition booklet, with answer key descriptions, and examples of puzzle types used in the contest. The examples are credited to the appropriate authors, and all rights are reserved by the authors. Note that some of the puzzles in the competition may be by different authors. Instructions will be repeated in the competition booklet, but not the examples.

The competition booklet will have a cover page.

	Points		Points
#1 – Bridges	10	#14 - Snake	20
#2 - 5 Stars	10	#15 - Queens Park Rangers	20
#3 - Tapa	10	#16 - Corral	20
#4 - Bosnian Road	10	#17 – Slitherlink	20
#5 – Scrabble	15	#18 – Slitherlink	25
#6 – Thermometers	15	#19 – Decrypting	20
#7 – Flip Sums	15	#20 – Battleships	20
#8 - Rectangles with a Wall	15	#21 - Spiral Battleships	25
#9 - Nurikabe	15	#22 - Labyrinth	25
#10 -Magic Summer	15	#23 – Summon	30
#11 - LITS	20	#24 - Galaxies	40
#12 - Yosenabe	20	#25 - True/False Snake	40
#13 – Weather Signs	20	#26 - Pentominoes	50
		Total:	545

The puzzle types and the points attached to them are detailed below.

## PUZZLE AUTHORS

We are indebted to the following authors for designing the puzzles used in this contest:

Philipp Hübner Riad Khanmagomedov Puzzler Media David Millar Prasanna Seshadri Gabriele Simionato Tawan Sunathvanichkul Serkan Yürekli Nikola Zivanovic

Many thanks also to Alan O'Donnell and David McNeill for test solving and proof reading.

Thank-you.

## #1 - BRIDGES (10 PTS)

Each circle in the diagram represents an island, with the number on it representing the total number of bridges connected to it. Join islands with horizontal and vertical bridges, so that all islands are connected in a single network. Two islands can be directly joined by no more than two bridges. **Answer key**: Enter the number of horizontal double bridges, followed by the number of vertical double bridges.

**Answer key**: Enter the number of horizontal double bridges, followed by the number of vertical double bridges. Example: 5,3.

#### Example:



Solution:



© Puzzler Media Ltd 2013

# #2 - 5 STARS (10 PTS)

Place five stars in the grid. Four stars are one cell sized and one star is bigger and covers a 3x3 region. Cells with the stars cannot touch each other nor cells with the numbers, not even diagonally. Numbers represent total number of cells with stars seen from that number (left, right, up and down). **Answer key:** Enter the contents of the marked row and column using S for star and X for empty cells. Example: SSSXXXS,XXSXSXX



©Nikola Zivanovic 2013

# #3 - TAPA (10 PTS)

Shade some squares black to create a continuous wall. Number(s) in a square indicate the length of shaded cell blocks on its neighbouring cells. If there is more than one number in a square, there must be at least one white cell between the shaded cell blocks. Shaded cells cannot form a 2x2 (or larger) square. There are no wall segments on cells containing numbers.

**Answer Key**: Enter the lengths of shaded blocks of cells in the marked rows/columns. Example: 12,13

Example:



Solution:



©Serkan Yürekli 2013

# #4 - BOSNIAN ROAD (10 PTS)

Draw a loop in the grid by travelling horizontally and vertically without touching itself, not even diagonally. The numbers in the grid indicate the number of cells occupied by the loop in the 8 neighbouring cells. **Answer key**: Enter the number of turns the loop makes in each row, followed by the number of turns in each column.

Example: 2020202,2020202

Example:



Solution:



©Serkan Yürekli 2013

## #5 - SCRABBLE (15 PTS)

Locate all the given words in the grid, reading across or down. When finished, all words should be interconnected. Words that are not on the list are not permitted. Given clues represent all occurrences of that letter in the grid.

**Answer key**: Enter the contents of the marked rows using X for empty cells. Example: HXEXGXS,NXXBERN

## Example:

Solution:

ANKARA ATHENS BERN KIEV PRAGUE SANA



				Ρ		
A	N	к	A	R	A	
т		I		A		
н		Е		G		s
Е		v		υ		A
N			в	Е	R	N
s						A

©Serkan Yürekli 2013

## #6 – THERMOMETERS (15 PTS)

Fill in thermometers so that each number outside the grid identifies the number of cells being filled in that row/column. Thermometers must be filled from the bulb. Some thermometers may remain empty. **Answer key**: Identify the content of the marked row and column using B for a shaded cell and X for an empty cell.

Example: BBXXB,XBBXB

## Example:



©Tawan Sunathvanichkul 2013

Solution:



# #7 - FLIP SUMS (15 PTS)

Place the numbers 1 to N in the same position in the two grids, where N is the number of empty cells. Numbers round the grid identify sums of all numbers encountered on a path from that numbers until leaving the grid. The diagonal lines represent mirrors that the path will be reflected from. If a path visits the same cell twice, then the number in that cell will be counted twice.

**Answer Key**: Enter the numbers in the order they appear, without spaces. Example: 76523108194

#### Example:





Solution:





© David Millar 2013

# #8 - RECTANGLES WITH A WALL(15 PTS)

Along the grid lines draw some non-overlapping rectangles. Each rectangle contains one cell with a given number. The numbers indicate the area of the rectangle. In addition, shade some cells black to create a single continuous wall. Shaded cells cannot form a 2x2 (or larger) square.

Solution:

**Answer key:** Enter the lengths of shaded blocks of cells in the marked rows/columns. Example: 4,11

## Example:



Image: state of the state

© Nikola Zivanovic 2013

## **#9 - NURIKABE (15 PTS)**

Shade some cells to create islands of white cells, surrounded by a contiguous black wall. Shaded cells cannot form a 2x2 (or larger) square. Each island should contain exactly one given number and this represents the area of that island. No cell containing a number can be shaded

**Answer key**: Enter the lengths of blackened blocks of cells in the marked row/column. Example 35,14

## Example:

Solution:





© Tom Collyer (example) and Prasanna Seshadri (competition) 2013

# #10 - MAGIC SUMMER (15 PTS)

Place digits from 1 to 4 in the grid, so that each row and column contains each digit exactly once. Numbers outside the grid indicate the sum of all numbers appearing in corresponding rows and columns. These numbers are separated by at least one empty cell.

**Answer key**: Enter the digits in the marked row/columns using X to identify blank cells. Example: 32X14X,34X1X2



Solution:



©Serkan Yürekli 2013

# #11 - LITS (20 PTS)

Shade 4 orthogonally connected cells in each black bordered region so that all shaded cells form a single contiguous area. Shaded cells cannot form a 2x2 (or larger) square. Two identical shapes in different regions cannot touch each other orthogonally. Rotations and reflections are considered the same shape. **Answer Key**: Identify for the marked row and column which letter the cell belongs to. Use X to identify blank cells.

Example:LSSXI,XSSXL

## Example:





Solution:

©Nikola Zivanovic 2013

## #12 - YOSENABE (20 PTS)

Move all circles, vertically or horizontally, so they enter the grey areas. Show the movement of a circle by an arrow, with the tip of the arrow in the first cell it enters of its grey area. Arrows can cross through grey areas if they need to reach a grey area beyond. The arrows do not bend, and do not cross other white circles or lines of other arrows. The number in a grey area must be equal to the sum of the numbers of the circles which enter the area. Empty grey areas may have any sum total, but at least one circle must enter each grey area. **Answer key**: Enter the contents of the marked rows/columns using X for blank cells. Example: X8XX47X,X62X49X

Example:

Solution:



© Prasanna Seshadri 2013

# #13 - WEATHER SIGNS (20 PTS)

Locate the given figures in the grid so that each row and column contains each figure exactly once.

White figures are transparent and black figures cover accordingly.

Answer key: Identify the location of the small black circle in each row, followed by location of the small white circle in each row.

Example: 621543,362451

#### Example:

#### Solution:



©Serkan Yürekli 2013

# #14 - SNAKE (20 PTS)

Draw a snake in the grid, 1 cell wide and 45 cells long. Its head and tail are given. The numbers outside the grid indicate the number of the squares occupied by the snake in the corresponding row or column. The snake cannot touch itself, not even diagonally.

Answer key: Enter the number of turns the snake makes in each row, followed by the number of turns in each column.

Example: 2026042042,2320404223

#### Example:



©Nikola Zivanovic 2013

## Solution:

	3	5	5	1	5	3	7	4	5	7
4							25	24	23	22
2							26			21
6		34	33	32	31		27			20
7	36	35			30	29	28		18	19
2	37								17	
6	38	39	40				14	15	16	
4			41		11	12	13			
3			42		10					1
7		44	43		9	8	7	6		2
4		45						5	4	3

# #15 - QUEENS PARK RANGERS (20 PTS)

Draw two separate loops, one for the Queens, the other for the Rangers, which pass through all the cells (except the black ones). Both loops pass through every park, where they cross each other. Loops cannot cross each other outside the parks. Some cells are already labelled with R or Q, and the letter tells you whether that cell is part of the Rangers or the Queens loop.

**Answer key**: Identify whether the cell in each of the marked row and column is part of the Queens loop or the Rangers loop. Use Q for Queen and R for Rangers and X for where the loops cross. Example: QRQQXQQ,QXQRRQQ



©Liane Robinson (example) and Gabriele Simionata (competition) 2013

## #16 - CORRAL (20 PTS)

Draw a closed loop along the grid lines that does not touch itself, not even diagonally. All numbers are inside the loop. The numbers in the grid indicate how many cells inside the loop can be seen horizontally and vertically from that cell, including the cell itself.

**Answer key**: Enter the length of the cell blocks that are inside the corral in the marked rows/columns. Example: 22,21

Example:

Solution:



## #17 & #18 - SLITHERLINK (20 & 25 PTS)

Draw a closed loop in the diagram, following the grid-lines. The numbers in cells indicate how many edges of that cell are part of the loop.

**Answer key:** Enter the length of the cell blocks that are inside the loop in the marked rows/columns. Example: 214,312



Solution:



©Puzzler Media 2013

## #19 - DECRYPTING (20 PTS)

Replace the given letters with each of the digits from 0 to 9 such that the results of the operations are correct. The same letter should always be replaced by same digit.

Groups of letters identify a number with that many digits, i.e in the example ARY is a 3 digit number. **Answer key:** Write the value of each letter in the order shown in the grid. Example: 6935104278

Example:

HU+NG=ARY BExN=TA H+R=G+A Solution:

Н	U	Ζ	G	Α	R	Y	В	ш	Т
6	9	3	5	1	0	4	2	7	8

©Nikola Zivanovic 2013

# #20 - BATTLESHIPS (20 PTS)

Place the given fleet of ships into the grid so that no two ships are in adjacent cells, not even diagonally. Numbers around the grid identify the number of ship segments in that row or column. Ships cannot be placed on shaded cells.

**Answer key**: Identify the contents of the marked row/column using S for ships and X for water. Example: XSSSSXXSX,SXSXXSXX

## Example:





Solution:

©Puzzler Media (example) and Riad Khanmagomedov (competition) 2013

## #21 - SPIRAL BATTLESHIPS (25 PTS)

Locate the 10-ship fleet in the grid so that no ship touches each other, not even diagonally. Numbers 1-20 are filled in rising order in each occupied cell going clockwise from the top left corner round the spiral. The numbers along the sides represent the sum of numbers in that respective row/column.

**Answer key**: Enter the numbers that appear in the marked row and column in the order that they appear. Example: 7185,310172014

Example:







# #22 - LABYRINTH (25 PTS)

Create a labyrinth in the grid. The clues outside the grid identify how many consecutive segments of line are to be marked as hedges in that row/column. There is a gap of at least one segment between adjacent hedges on a line. When the labyrinth is complete, find your way through, from start (S) to end (E), passing once through each cell on the way.

Solution:

**Answer key**: Enter the length of each labyrinth path in the marked row and column. Example: 311311,28

#### Example:





© Puzzler Media 2013

## #23 - SUMMON (30 PTS)

Place digits from 1 to 3 in the grid, so that each region includes all digits exactly once. Same digits cannot touch each other, even diagonally. Outside clues show the sum of all numbers in the corresponding direction. Numbers should be read from left to right or top to bottom.

**Answer key:** Enter the cell contents in the marked row and column, using X for blank cells. Example: X1X212X,2XXXX1

Example:



Solution:



© Serkan Yürekli 2013

## #24 - GALAXIES (40 PTS)

Divide the grid into smaller regions along the gridlines such that each region contains exactly one given grey dot. Each region must be centrally symmetric around the dot.

**Answer key**: Identify the area of each region that has at least one cell in the marked row and column. Example: 644334,5533654

## Example:



Solution:



©Philipp Hübner 2013

# #25 - TRUE/FALSE SNAKE (40 PTS)

Draw a snake in the grid of unknown length. The head and tail of the snake are given. The body of the snake cannot touch itself, not even diagonally. The numbers indicate the number of cells the snake visits in the direction of the arrow. If the snake does not pass through a clue cell, then that clue is true, otherwise, it is false. **Answer key:** Enter the number of turns the snake makes in each row, followed by the number of turns in each column.

Example: 2040202,4202020

#### Example:

#### Solution:



© Prasanna Seshadri 2013

# #26 - Pentominoes (50 pts)

Place the 12 different pentominoes in the grid. Pentominoes may be rotated and/or mirrored. Pentominoes cannot touch each other, not even diagonally. Digits outside the grid show the number of cells occupied by the pentominoes in the corresponding row or column. Grey cells cannot contain pentomino pieces. **Answer key**: Identify for the marked row and column which pentomino the cell belongs to. Use X to identify blank or grey cells. Example:NNXZZXL,LLLXXV

Example:

Solution:



© Alan O'Donnell (example) and Riad Khanmagomedov (competition) 2013

## **END OF TEST**