

# INSTRUCTION BOOK



## UK Open Puzzle Tournament 2012

### Rounds:

				<b>Online start time</b>
1	Warm Up	30 minutes	380 points	3:30pm 28th April
2	Classics	60 minutes	710 points	4:30pm 28th April
3	Japanese Puzzles	45 minutes	620 points	5:30pm 28th April
4	UK Themes	30 minutes	370 points	12:30pm 29th April
5	Novelties	60 minutes	700 points	1:30pm 29th April

**2780 points**  
**3 hours 45 minutes**

Compilation and design ©Gareth Moore for UK Puzzle Association, a non-profit organisation.  
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### Instructions

You may start each round at any time of your choosing within 1 week of the start time shown above. Download the relevant round's contest PDF in advance of pressing 'START NOW' - this will then provide a password to let you view and print the round. You then have the length of time given above to complete the round.

Complete each puzzle and enter the two given keys, separated by a comma in the form "A,B", into the online form. For example, "1#45#3##4,4#3##4#2#". Some puzzles have only a single key. You must submit all of your keys before the time is up in order to receive any credit for a puzzle. Keys must be 100% correct in order to gain credit for a puzzle.

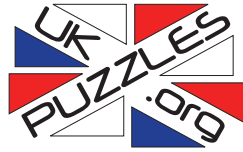
10 bonus points per full minute remaining will be awarded if you complete a round early with all puzzles correct. If you complete early but with errors then a bonus of 5 points per full minute will be awarded if no more than 2, 3, 3, 2 or 2 puzzles are incorrect for rounds 1, 2, 3, 4 and 5 respectively.

The winner of the online tournament will be the player with the highest number of total points over all 5 rounds. An overall scoreboard will be published once all 5 rounds have closed.

### Thank You

Enormous thanks to the many puzzle authors who have contributed puzzles. They are credited within. Thank you also to Thomas Snyder and Palmer Mebane for test-solving the finished competition, plus Ronald Stewart for additional testing and Alan O'Donnell for checking the instructions and examples. Thank you to Stefano Forcolin for liaising with the Italian contributors.

# INSTRUCTION BOOK



**UK Open Puzzle Tournament 2012**

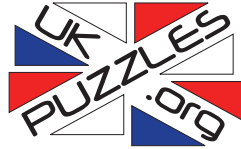
**Round 1:  
Warm Up**

**380 points**

**30 minutes**

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Registered in England & Wales. No. 7281905

King's Journey  
20 points



©Clarity Media Ltd

Puzzle 1:1

Find a route from 1 to 71 (81 in the example) by moving only as a king moves in chess: left, right, up, down or diagonally to adjacent cells. You must visit each cell exactly once, and the given numbers 'n' must occur at the 'n'th cell in that journey.

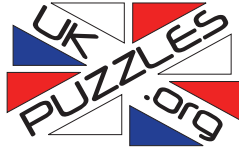
58	57	56	47	46	44	35	34	33
59	60	61	55	48	45	43	36	32
64	63	62	54	50	49	42	37	31
65	66	67	53	51	41	38	30	27
71	70	68	52	40	39	29	28	26
72	73	69	2	1	22	23	24	25
77	76	74	3	4	13	21	20	19
80	78	75	5	9	12	14	18	17
81	79	6	7	8	10	11	15	16

**B** ↓

	57				44			
59				48		43		32
<b>A</b> →	63	62		50	49		37	
65			53					
	70						28	
72			2	1		23		25
	76			4			20	
80		75		9			18	
81		6				11		16

Keys A&B: Enter the least-significant digit of each number (e.g. 4 for 64) in the marked row/column, e.g. 432409271,612789456

Battle Lines  
30 points



©Puzzler Media Ltd

Puzzle 1:2

Locate the position of each of the listed ships in the grid.

Ships are placed horizontally or vertically only.

Numbers within the grid tell you the total number of ship segments in both the row and column that the number is in. Ships cannot be placed on top of numbers.

Ships may not touch, not even diagonally.

0									
		◡		7		◡	◡		◡
		◻				7			◻
4		◡		○		○	6		◡
						5			
			0						3
	○	9		◡	◻	◻	◡		
						5		0	
	◡	◡				◡			
4			○	3	◡			2	

**B** ↓

	0								
				7					
						7			
<b>A</b> →	4						6		
						5			
			0						3
		9							
						5		0	
	4				3			2	

Aircraft carrier: ◡◻◻◡

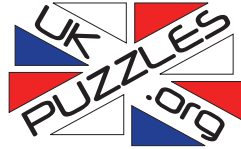
Battleship: ◡◻◡ ◡◻◡

Cruiser: ◡◡ ◡◡ ◡◡

Destroyer: ○○○○

Keys A&B: Enter the marked row/column, with '#' for ship segment and 's' for empty or numbered cells, e.g. ss#s#s#ss#,s###ssss#s

Labyrinth  
50 points

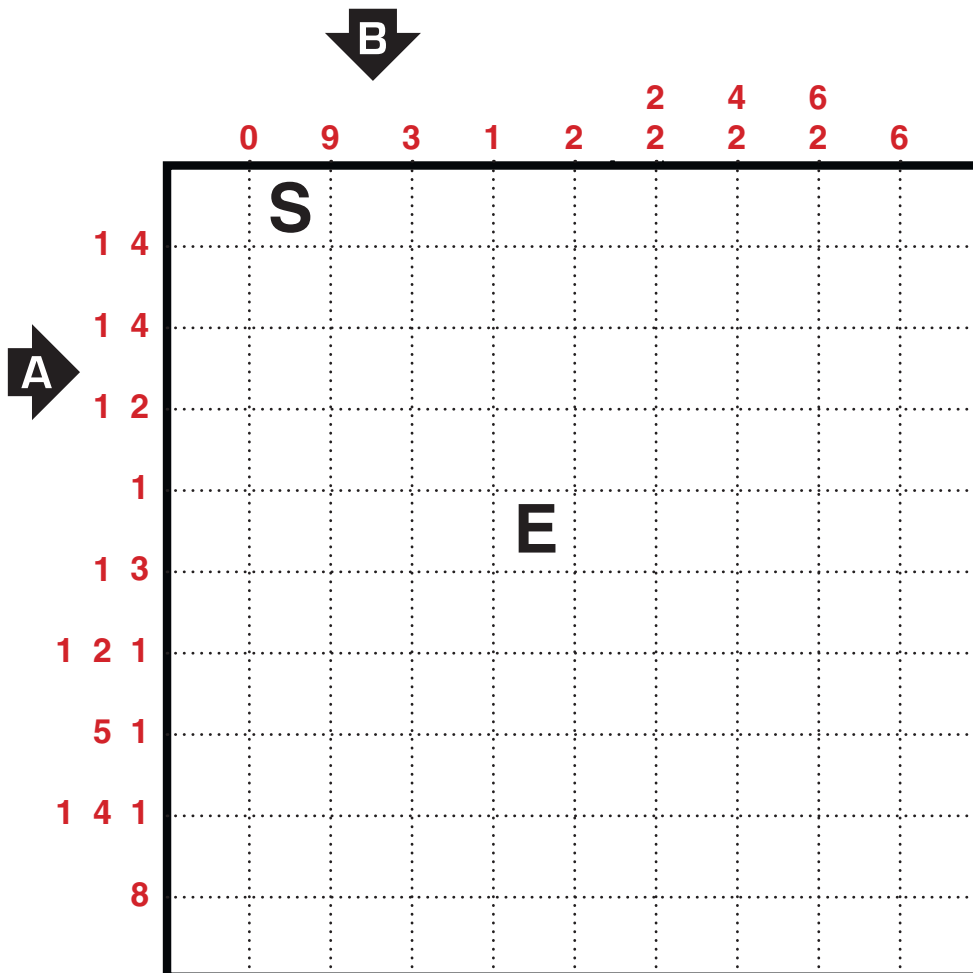
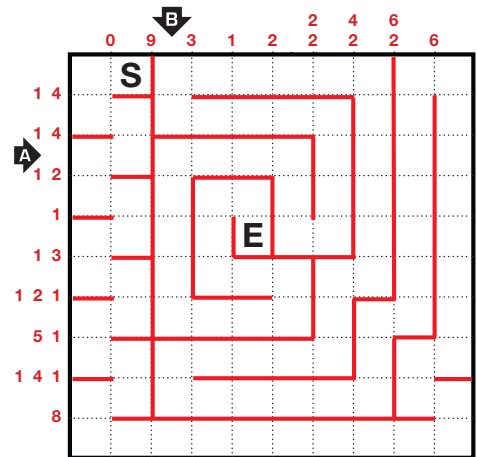


©Puzzler Media Ltd

Puzzle 1:3

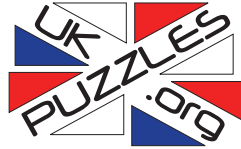
Draw solid walls along existing lines in the grid to form a walled maze with a single path that runs from the 'S' to the 'E'.

There must be no dead ends or sealed-off areas, and the path must visit all cells of the grid. The path must be one cell wide at all points. Clues outside the grid specify the length of each continuous run of solid wall segment in order from left-to-right/top-to-bottom (as in Hanjije puzzles).



Keys A&B: Enter the perpendicular crossing walls in the marked row/column, with '#' for walls and 's' for gaps, e.g. s#sss####,s#ssss#s#

Coins  
**40 points**



©Alberto Fabris  
**Puzzle 1:4**

Place exactly one coin in each cell so that the total of each row and column is as given.

Possible coin values are: 1, 2, 5, 10, 20, 50

	<b>22</b>	<b>75</b>	<b>53</b>
<b>61</b>	10	50	1
<b>80</b>	10	20	50
<b>9</b>	2	5	2

Example ©Gareth Moore

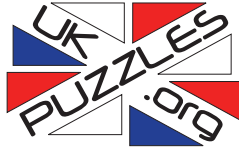


	<b>22</b>	<b>75</b>	<b>53</b>
<b>61</b>			
<b>80</b>			
<b>9</b>			



Keys A&B: Enter the marked row/column as a digit sequence, e.g. 102050,1502

Lighthouses  
40 points

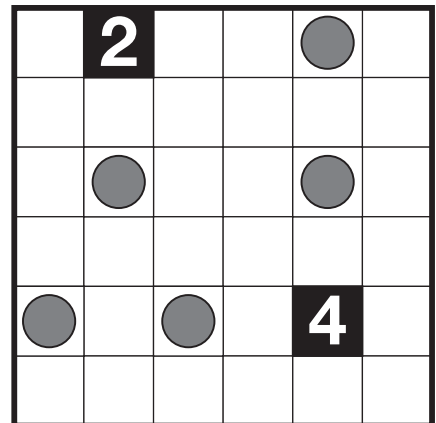


©Alberto Fabris  
Puzzle 1:5

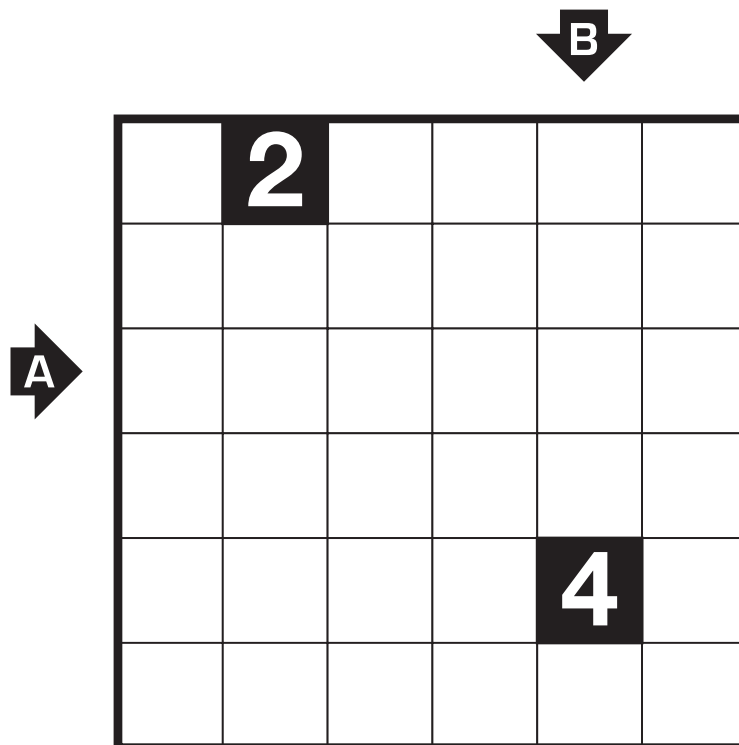
Place some lighthouses in the grid such that no lighthouse touches either another lighthouse or a given number, including diagonally.

Given numbers specify how many lighthouses there are in total in that row and column.

Lighthouses cannot be placed on given numbers.

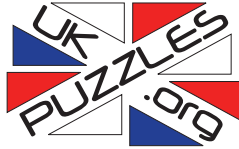


Example ©Gareth Moore



Keys A&B: Enter the marked row/column, with '#' for lighthouses and 's' for empty or clue cells, e.g. s#ss#s, #s#sss

No Four in a Row  
30 points



©Gabriele Simionato

Puzzle 1:6

Fill the empty cells in the grid with either an 'X' or an 'O' such that no line of 4 consecutive 'X's or 'O's is made in any direction, including diagonally.

○	X	○	X	X	○	○	○	X
○	○	○	X	○	X	X	X	○
X	X	○	○	○	X	X	X	○
○	X	X	X	○	○	X	○	○
X	X	○	X	X	X	○	○	X
○	○	○	X	○	X	X	X	○
○	X	○	○	X	○	○	X	X
X	○	X	X	○	X	○	○	○
○	○	○	X	X	X	○	X	○

Example ©Deb Mohanty



○			X		○		○	
		○			X	X	X	
					X	X	X	
	X							○
	X						○	
		○						
○		○			○		X	
			X			○		
○	○			X				○

Keys A&B: Enter the marked row/column, e.g. xxooxxxo,oxxxooxx



# Tetromino Minesweepers

## 30 points



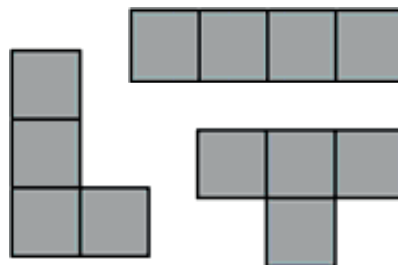
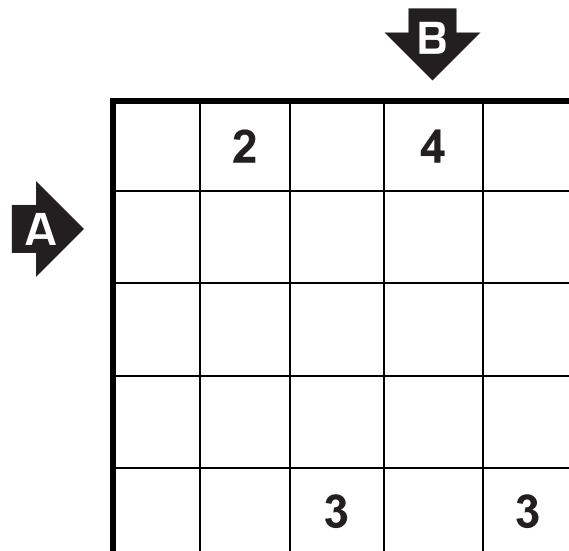
©Tawan Sunathvanichkul  
**Puzzle 1:7**

Shade cells to locate the position of the 7 given tetromino pieces (3 in the example). Pieces cannot touch each other, not even diagonally.

A numbered cell indicates how many surrounding cells, including diagonals, are shaded. Numbered cells cannot be shaded.

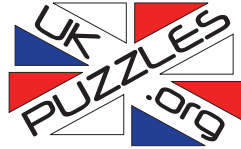
The pieces may be rotated but **not** reflected.

	2		4	
		3		3



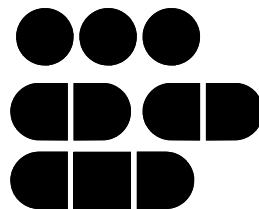
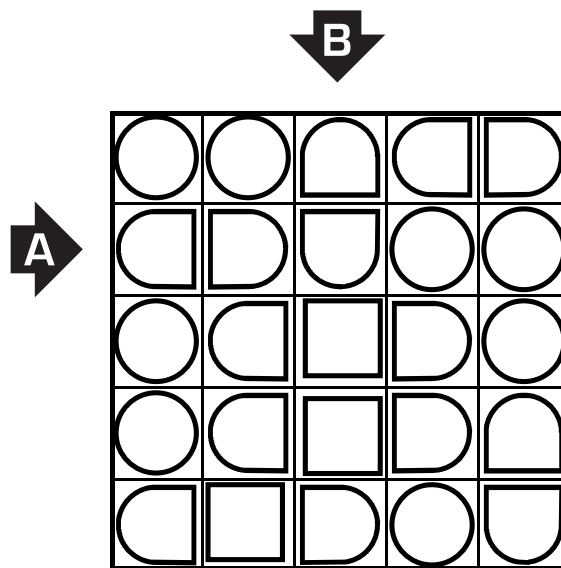
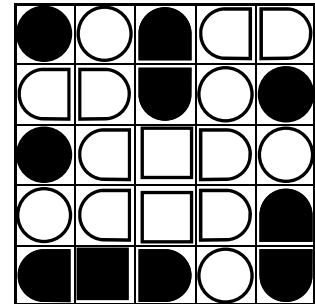
Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for empty or clue cells, e.g.  
 #####,s###

Retrograde Battleships  
**50 points**



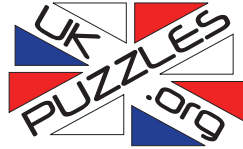
©Tawan Sunathvanichkul  
**Puzzle 1:8**

The outlines of possible ship locations are given. Shade in the position of the listed ships so that no ships touch each other, not even diagonally.



Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for empty cells, e.g.  
 ss#s#, ##ss#

Battleships  
20 points



©Tawan Sunathvanichkul  
Puzzle 1:9

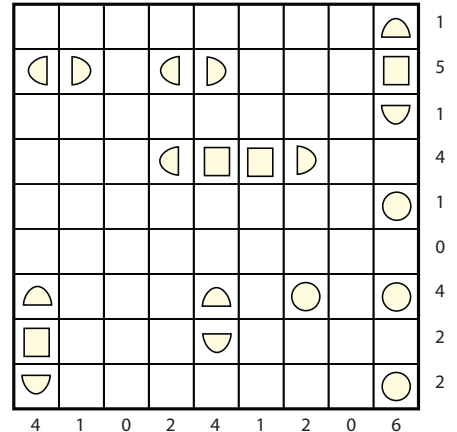
Locate the position of each of the listed ships in the grid.

Ships are placed horizontally or vertically only.

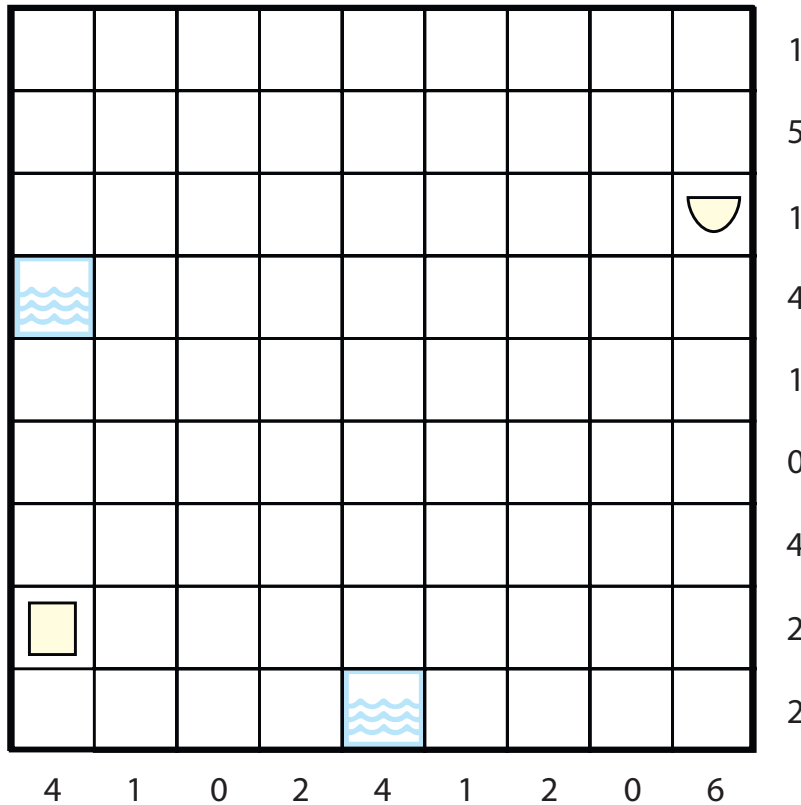
Numbers around the edge tell you the number of ship segments in each row and column.

Ships cannot touch each other, not even diagonally.

Some ship segments and water (cells without battleship segments) may be already given.



Example ©Puzzler Media Ltd



Aircraft Carrier: ◐◑◑◑

Battleship: ◐◑◑ ◐◑◑

Cruiser: ◐◑ ◐◑ ◐◑

Destroyer: ◑ ◑ ◑ ◑

Keys A&B: Enter the marked row/column, with '#' for ship segments and 's' for empty or numbered cells, e.g. sss####ss,s#s#ss##s

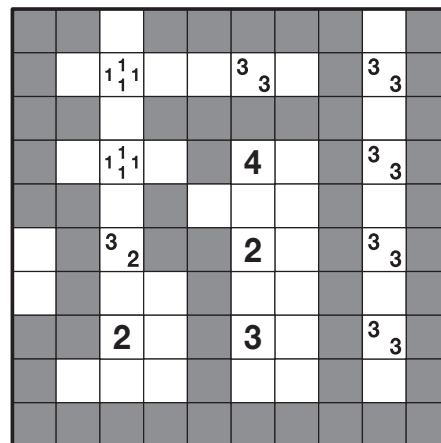
Tapa  
30 points



©Alberto Fabris  
Puzzle 1:10

Shade some empty cells to create a continuous shaded region. The clues reveal the count of neighbouring shaded cells: considering the 8 cells around a clue as a circular region, the clues give the length of all shaded sets of cells in that region. If there are multiple numbers in a clue cell then the different shaded sets of cells must have at least one white cell between them.

Tapa clues cannot themselves be shaded, and there can be no 2x2 shaded regions.



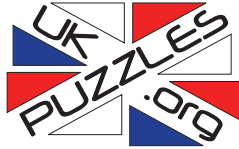
Example ©Gareth Moore



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

Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
##s#####s#, #s#ssssss#

Binary Puzzle  
40 points



©Clarity Media Ltd  
Puzzle 1:11

Place 0 or 1 in each empty cell, such that there are no more than two of the same digit in consecutive sequence, reading either across or down.

There must be four 0s and four 1s in each row and in each column.

1	0	0	1	1	0	1	0
1	1	0	1	0	1	0	0
0	0	1	0	1	0	1	1
0	0	1	1	0	1	1	0
1	1	0	0	1	0	0	1
1	1	0	0	1	0	1	0
0	0	1	1	0	1	0	1
0	1	1	0	0	1	0	1

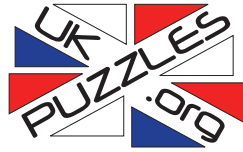
**B** ↓

→ **A**

			1	1			
	1		1				
0						1	
0							
		0	0				1
			0				
		1			1		1
	1				1	0	

Keys A&B: Enter the marked row/column, e.g. 10011010,11001100

# INSTRUCTION BOOK



**UK Open Puzzle Tournament 2012**

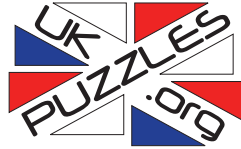
**Round 2:  
Classics**

**710 points**

**60 minutes**

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# Battleships 20 points



©Puzzler Media Ltd  
**Puzzle 2:1**

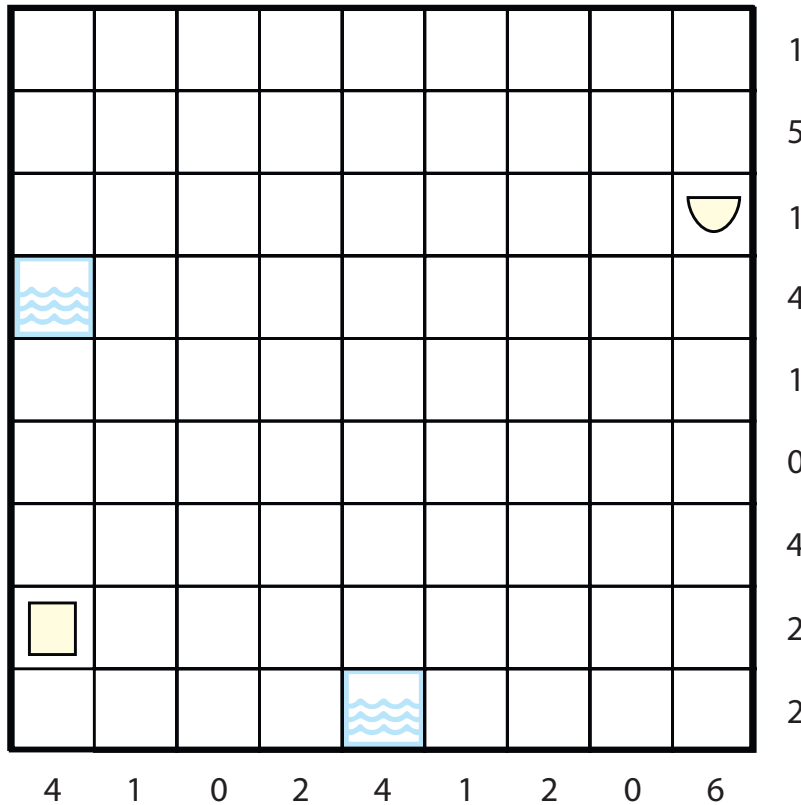
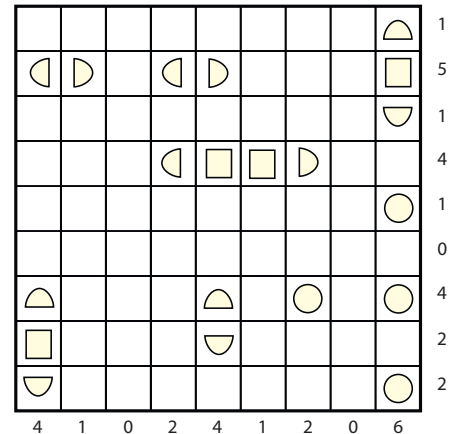
Locate the position of each of the listed ships in the grid.

Ships are placed horizontally or vertically only.

Numbers around the edge tell you the number of ship segments in each row and column.

Ships cannot touch each other, not even diagonally.

Some ship segments and water (cells without battleship segments) may be already given.



Aircraft Carrier: ◐◑◑◑◑

Battleship: ◐◑◑◑ ◐◑◑◑

Cruiser: ◐◑ ◐◑ ◐◑

Destroyer: ○ ○ ○ ○

Keys A&B: Enter the marked row/column, with '#' for ship segments and 's' for empty or numbered cells, e.g. sss####ss,s#s#ss##s

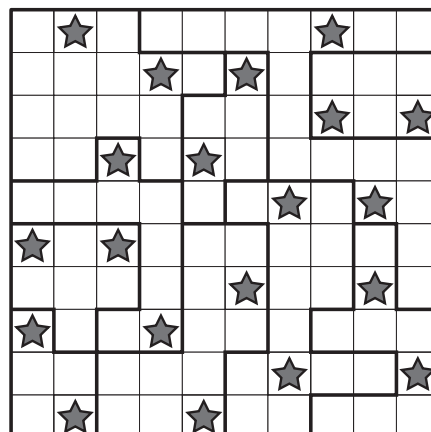
# Star Battle 20 & 30 points



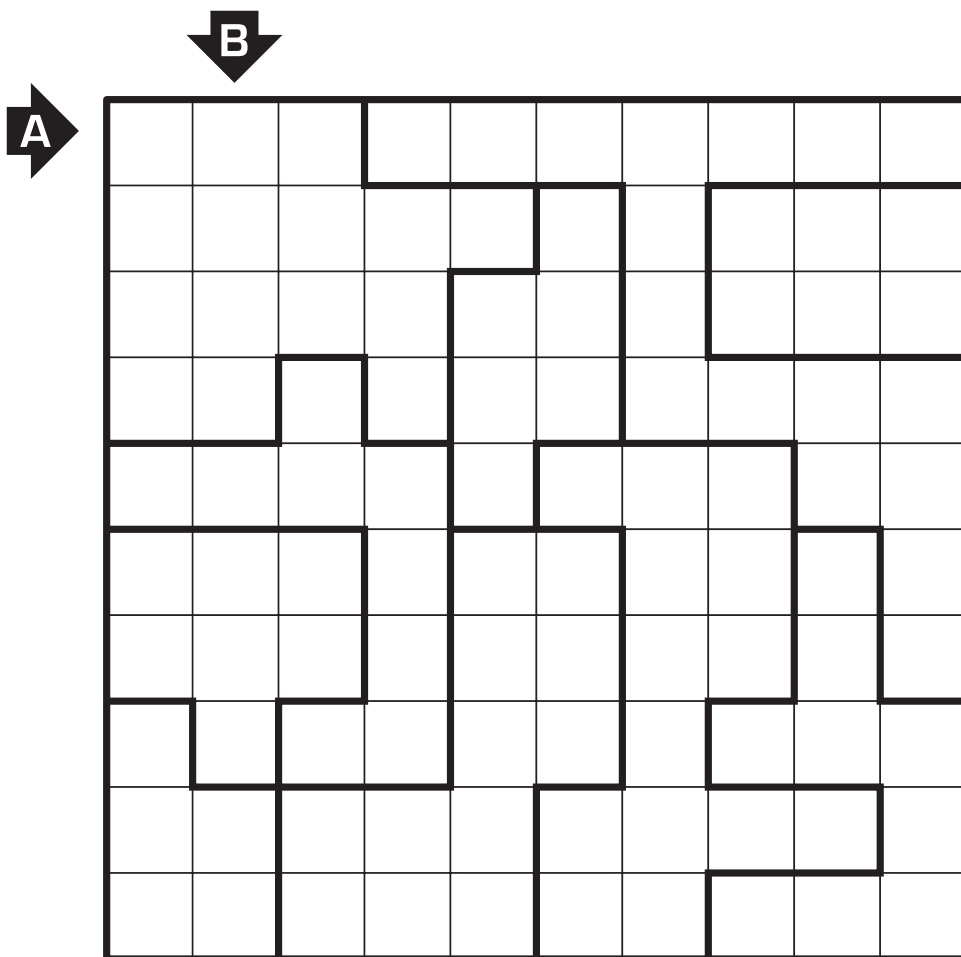
©Philipp Hübner  
**Puzzle 2:2-3**

Place exactly 2 stars in each row, column and bold-lined shape.

No star can be in the cell adjacent or diagonally-adjacent to any other star.



Example ©Gareth Moore

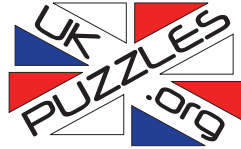


Keys A&B: Enter the marked row/column, with '#' for starred cells and 's' for other cells, e.g.  
s#sssss#ss,#ssssssss#





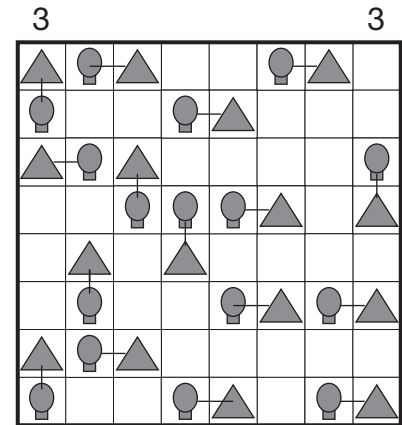
Tents  
30 points



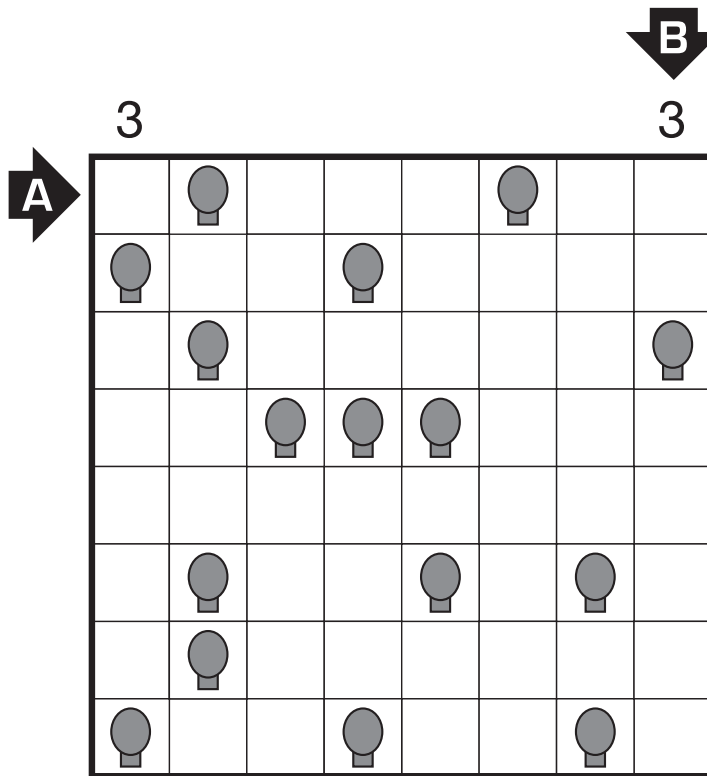
©Alberto Fabris  
Puzzle 2:5

Place a tent in a cell horizontally or vertically adjacent to every tree (marked 'T' in the competition puzzle). Cells with tents in cannot touch, not even diagonally.

Numbers at the ends of rows or columns indicate how many tents are in the given row or column.

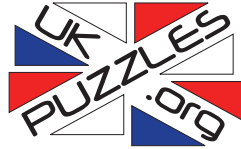


Example ©Alan O'Donnell



Keys A&B: Enter the marked row/column, with '#' for tents and 's' for other cells, e.g.  
#s#sss#s,sss#s#s#

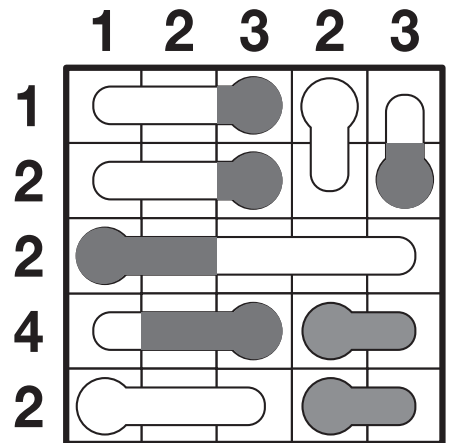
Thermometers  
80 points



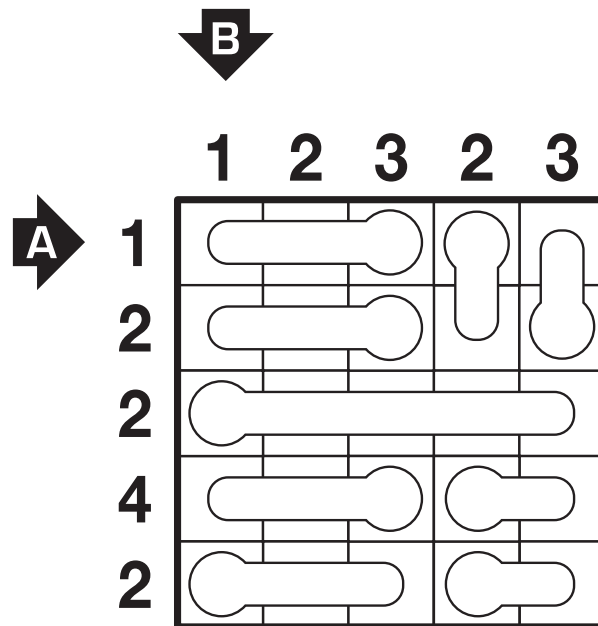
©Alberto Fabris  
Puzzle 2:6

Shade the given number of cells in each row or column, as indicated by the row-/column-end numbers.

No segment of a thermometer can be shaded unless all segments closer to the bulb, including the bulb itself, are already shaded.

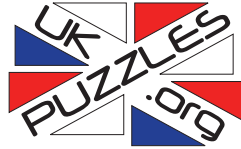


Example ©Gareth Moore



Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
ss#ss,ss#ss

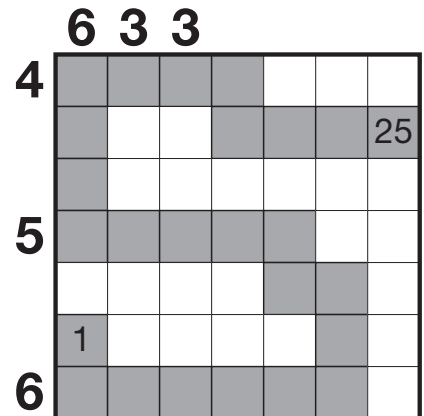
Snake  
50 points



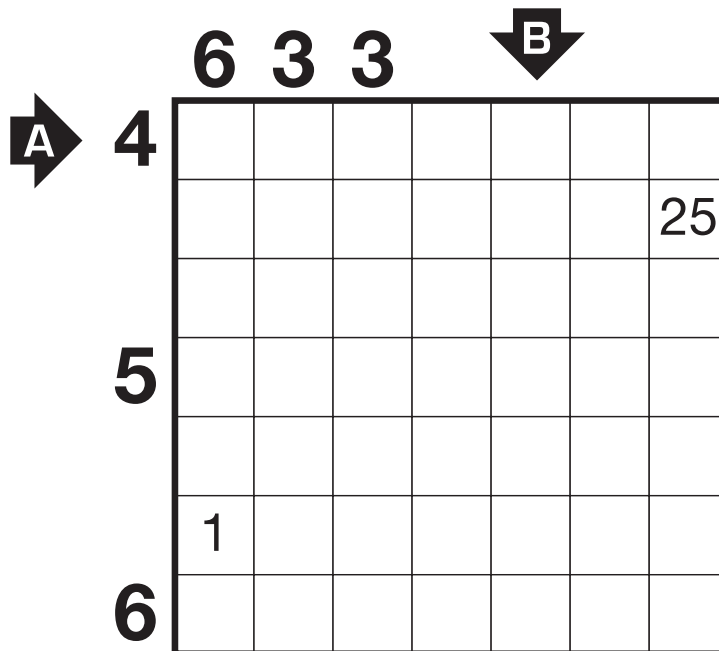
©Alberto Fabris  
Puzzle 2:7

A snake is hidden in the grid. It consists of 40 (25 in the example) neighbouring cells. The snake cannot touch itself, not even diagonally. The first and last cells of the snake are given.

Numbers outside the grid show the number of cells occupied by the snake in the given row or column.

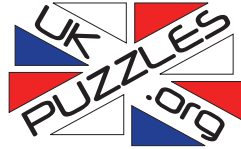


Example ©Gareth Moore



Keys A&B: Enter the marked row/column, with '#' for snake cells and 's' for other cells, e.g.  
#####sss,s#s##s#

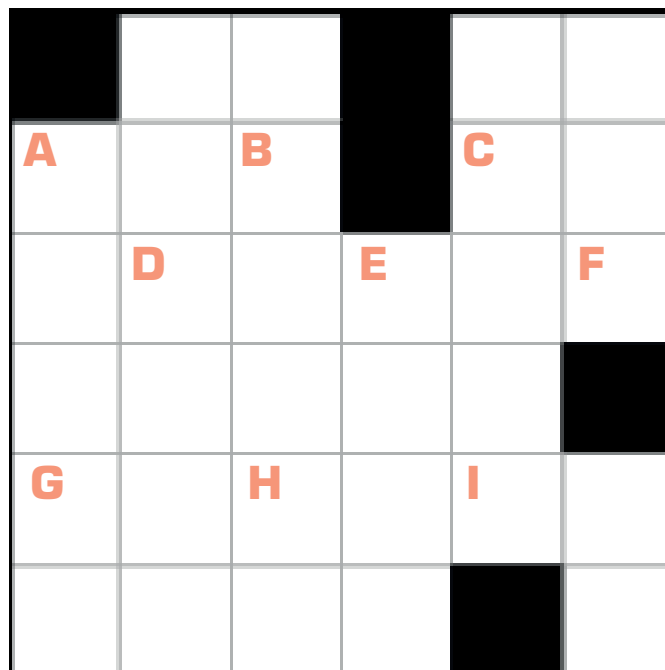
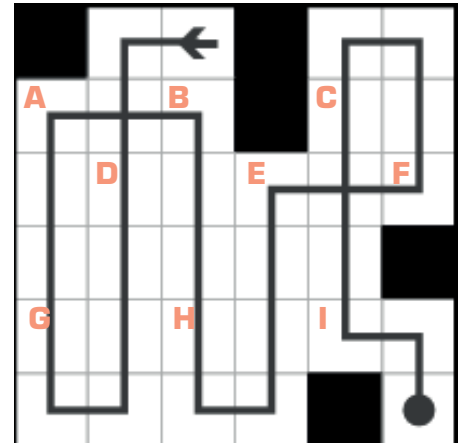
Tiger in the Woods  
**10 & 20 points**



©Deb Mohanty  
**Puzzle 2:8-9**

Draw a path in the grid that starts from any white square, then travels horizontally and vertically to visit every white square. The path can cross over itself but it may not overlap itself. It cannot cross the start or end squares, however.

Following the path from the starting square, it may change direction only after facing either a black square or the edge of the grid. The path must end on a square where it would be able to change direction.



Key: Enter the letters in the order visited from start to finish, e.g. DGABHEFCI

No Four in a Row  
**30 & 40 points**



©Andrey Bogdanov  
**Puzzle 2:10-11**

Fill the empty cells in the grid with either an 'X' or an 'O' such that no line of 4 consecutive 'X's or 'O's is made in any direction, including diagonally.

○	X	○	X	X	○	○	○	X
○	○	○	X	○	X	X	X	○
X	X	○	○	○	X	X	X	○
○	X	X	X	○	○	X	○	○
X	X	○	X	X	X	○	○	X
○	○	○	X	○	X	X	X	○
○	X	○	○	X	○	○	X	X
X	○	X	X	○	X	○	○	○
○	○	○	X	X	X	○	X	○

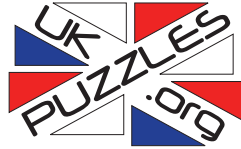
Example ©Deb Mohanty



○			X		○		○	
		○			X	X	X	
					X	X	X	
	X							○
	X						○	
		○						
○		○			○		X	
			X			○		
○	○			X				○

Keys A&B: Enter the marked row/column, e.g. xxooxxxo,oxxxoxxx

20 & 50 points

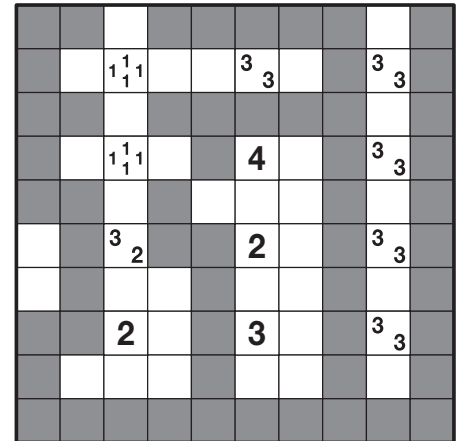


©Palmer Mebane

Puzzle 2:12-13

Shade some empty cells to create a continuous shaded region. The clues reveal the count of neighbouring shaded cells: considering the 8 cells around a clue as a circular region, the clues give the length of all shaded sets of cells in that region. If there are multiple numbers in a clue cell then the different shaded sets of cells must have at least one white cell between them.

Tapa clues cannot themselves be shaded, and there can be no 2x2 shaded regions.



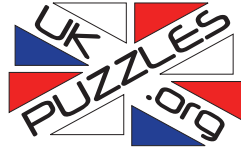
Example ©Gareth Moore



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

Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
##s#####s#, #s#ssssss#

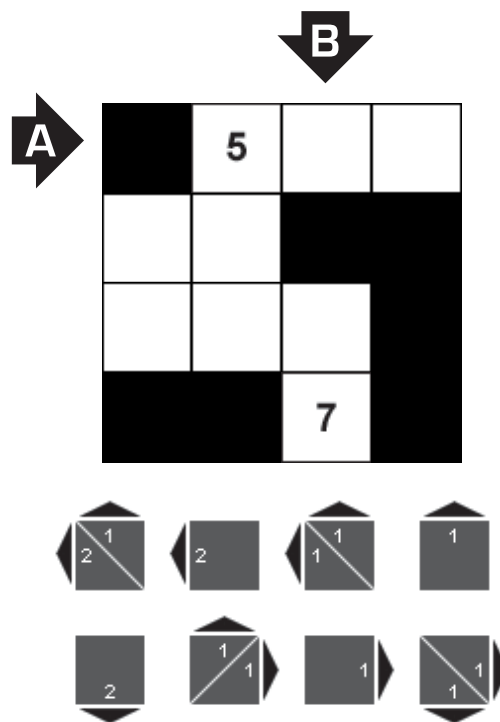
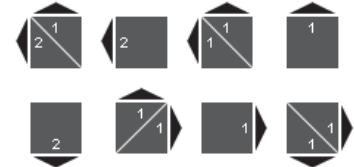
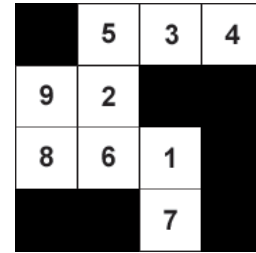
Navigridd  
20, 40, 40 points



©Vexus Puzzle Design  
Puzzle 2:14-16

Use movements from the given set once each to find a sequence of moves that travel from cell to cell, landing on each cell exactly once. Number the cells you visit in order from 1 to 9. You can start from any cell.

The given movements are shown as the number of cells moved left/right and/or up/down. The path cannot travel through any black squares, but a movement can follow any possible route between cells.



Keys A&B: Enter the marked row/column as a digit string, ignoring shaded cells, e.g. 534,317



Pointers  
80 points



©Alberto Fabris  
Puzzle 2:17

Enter a value in each arrow equal to the number of different values which that arrow points to.

Some values may already be given.


Example ©Gareth Moore


Keys A&B: Enter the values in the marked row/column, e.g. 1112,1111



# INSTRUCTION BOOK



**UK Open Puzzle Tournament 2012**

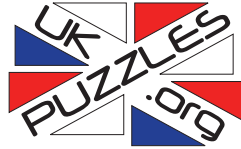
**Round 3:  
Japanese Puzzles**

**620 points**

**45 minutes**

Compilation and design ©Gareth Moore for UK Puzzle Association, a non-profit organisation.  
Registered in England & Wales. No. 7281905

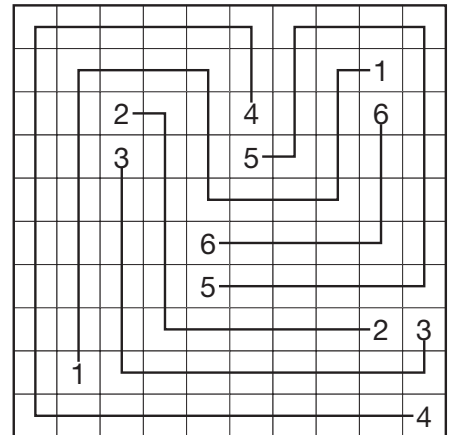
Numberlink  
**10 & 20 points**



©Palmer Mebane  
**Puzzle 3:1-2**

Draw horizontal and vertical lines to form a set of paths, each connecting a pair of identical numbers. All numbers must be used.

No more than one line can pass through any square, and lines can only travel horizontally or vertically between squares.



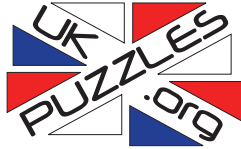
Example ©Gareth Moore



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

Key: Enter the least-significant digit of the number (e.g. 0 for 10) of the line in each cell of each marked row/column, e.g. 4122145165,4445165234

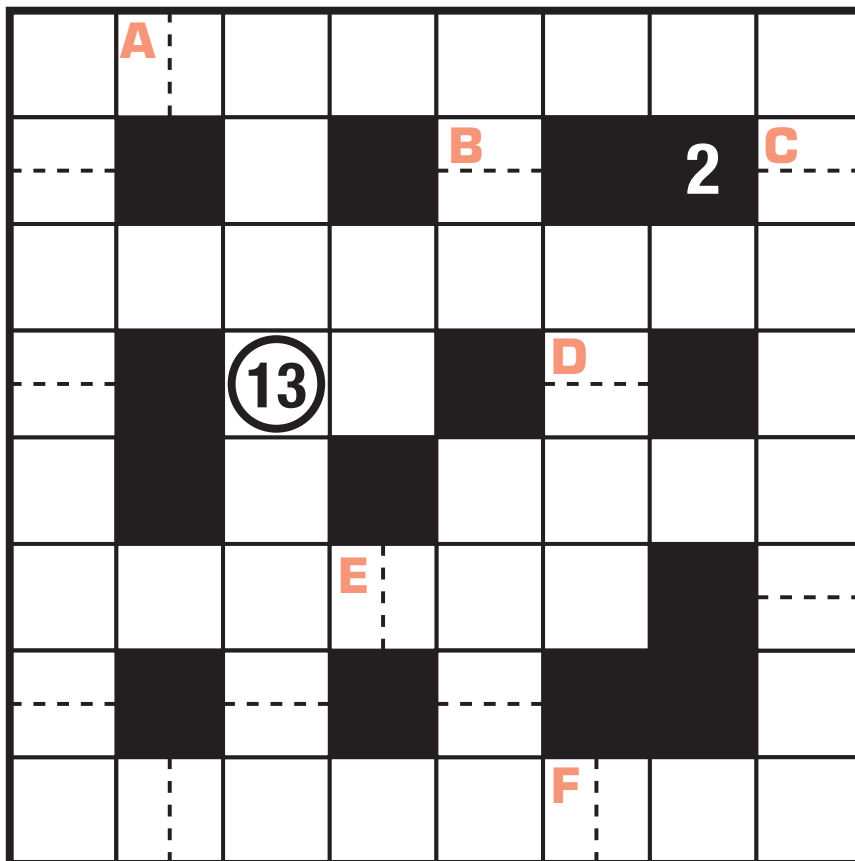
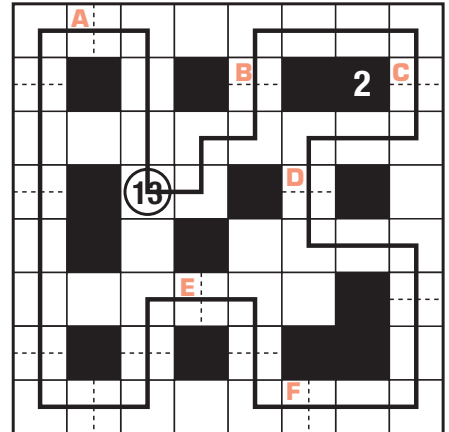
Suraromu  
40 points



©Gareth Moore  
Puzzle 3:3

Draw a single loop using horizontal and vertical lines that passes through every dashed-line gate exactly once. Some gates are numbered, 'n', and must be passed through as the 'n'th gate in the loop. The loop cannot enter any cell more than once, and if a gate is wider than one cell it can visit only one of the gate's cells.

Between the final and first gates the loop must pass through the cell containing the circled number, which is equal to the number of gates.



Key: Enter the order that the lettered cells are visited in by the loop (starting from the circle and travelling in increasing numerical order of gate), e.g. BCDFEA

# Nurikabe 30 & 50 points



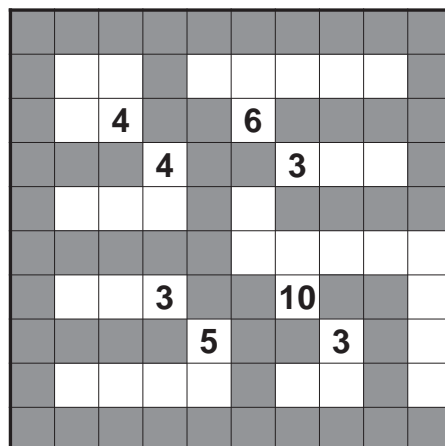
©Palmer Mebane  
**Puzzle 3:4-5**

Shade in cells so that every number in the puzzle remains as part of a continuous unshaded area of precisely the given number of cells.

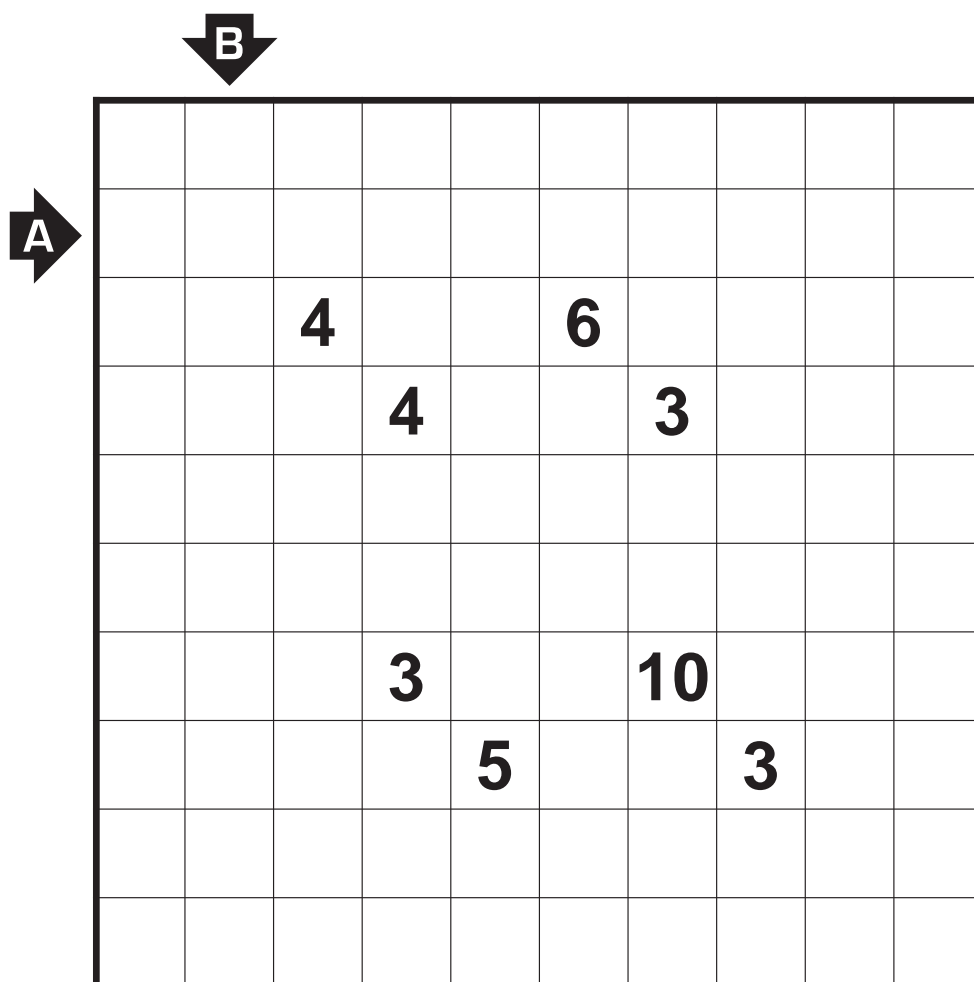
There can be only one number per unshaded area.

Shaded cells cannot form any solid 2x2 (or larger) areas.

All the shaded cells must form one continuous area.

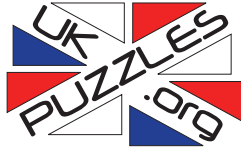


Example ©Gareth Moore



Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
#ss#sssss#, #ss#s#s#s#

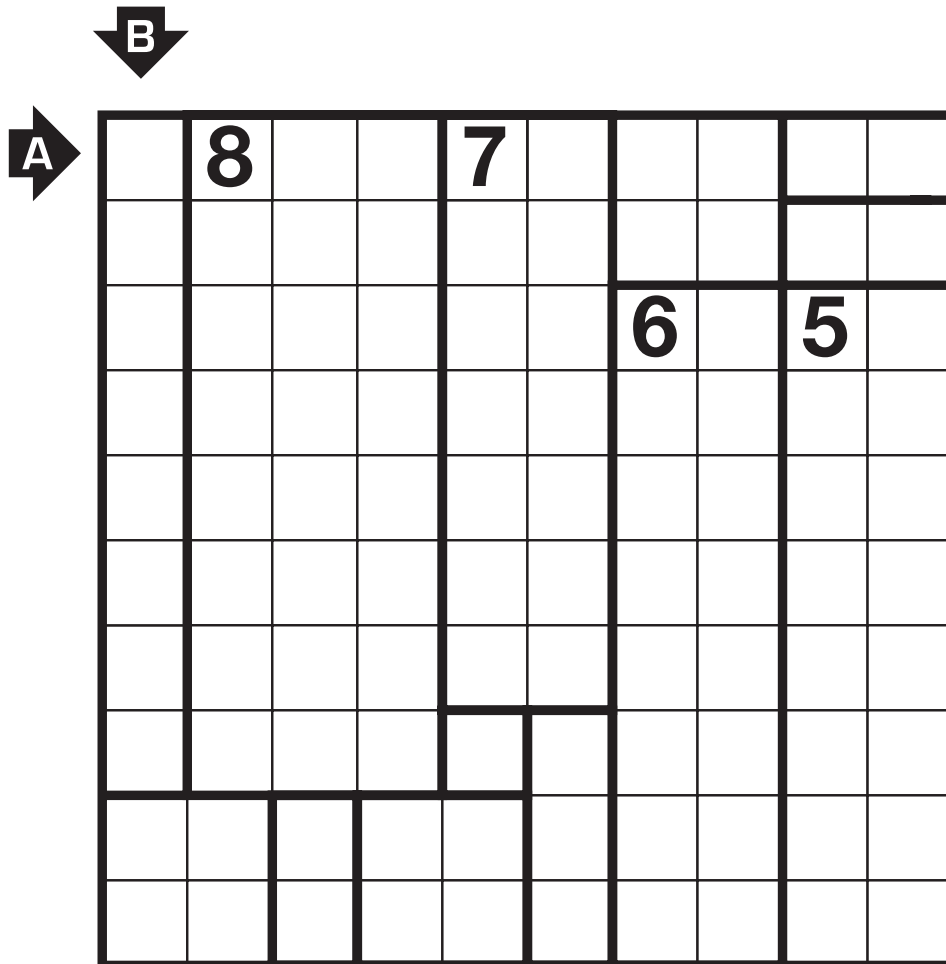
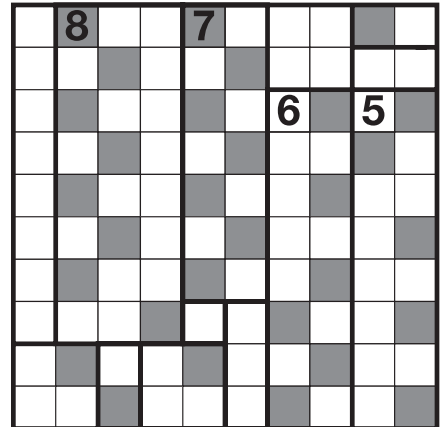
Heyawake  
30 points



©Gareth Moore  
Puzzle 3:6

Shade some cells, such that no two shaded cells are adjacent, except diagonally, and all unshaded cells form a single continuous area. Any single horizontal or vertical line of unshaded cells cannot traverse more than one bold line.

Numbered cells may or may not be shaded, but always give the precise amount of shaded cells in a bold-lined region.



Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
s#ss#sss#s,sssssssss

Masyu  
10 & 20 points



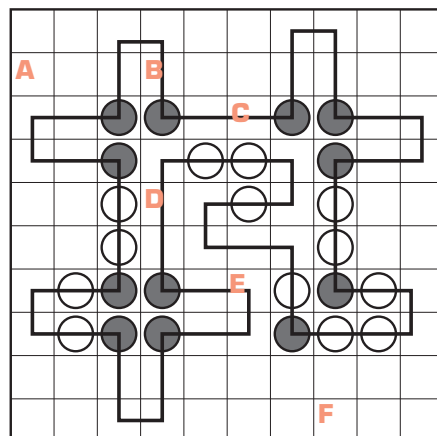
©Grant Fikes  
Puzzle 3:7-8

Draw a single loop that passes through the centre of every circle.

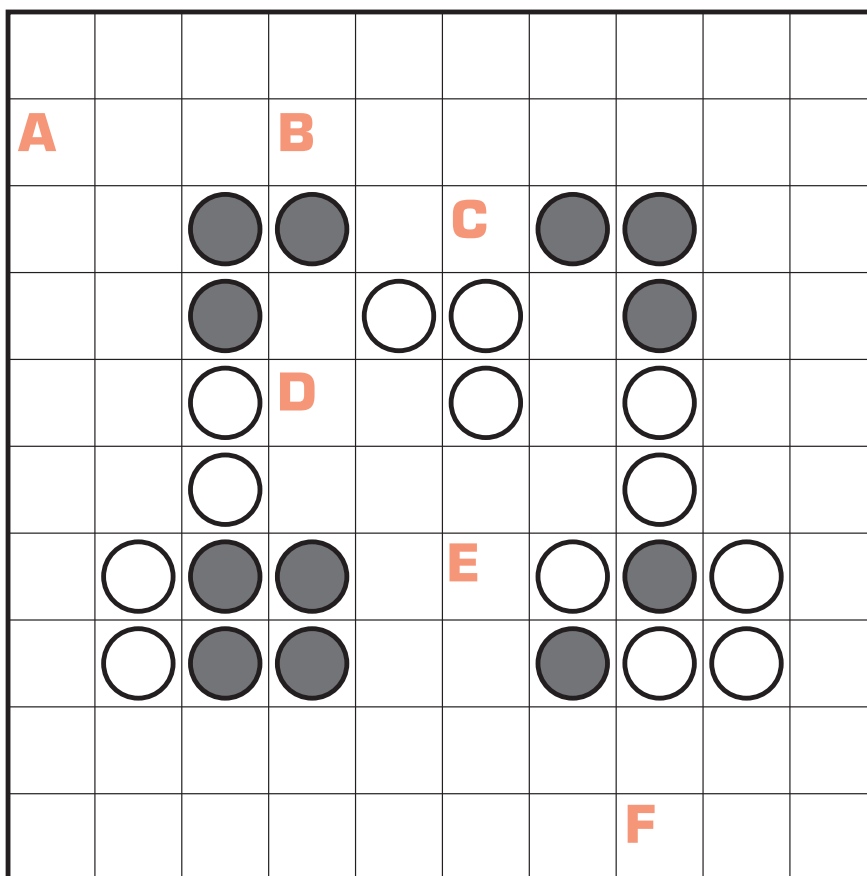
On a shaded circle the loop must turn 90 degrees and continue straight for at least one cell each side.

On a white circle the loop must continue straight but then must turn 90 degrees on one or both of the adjacent cells.

The loop cannot pass through a cell more than once.



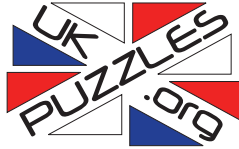
Example ©Gareth Moore



Key: Enter the letters in the order visited by the loop, travelling clockwise from the top-most, left-most letter in the loop (omit any letters not in the loop), e.g. BCDE



Country Road  
40 & 50 points

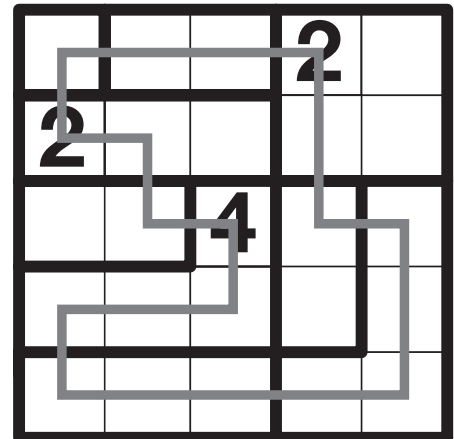


©Palmer Mebane  
Puzzle 3:9-10

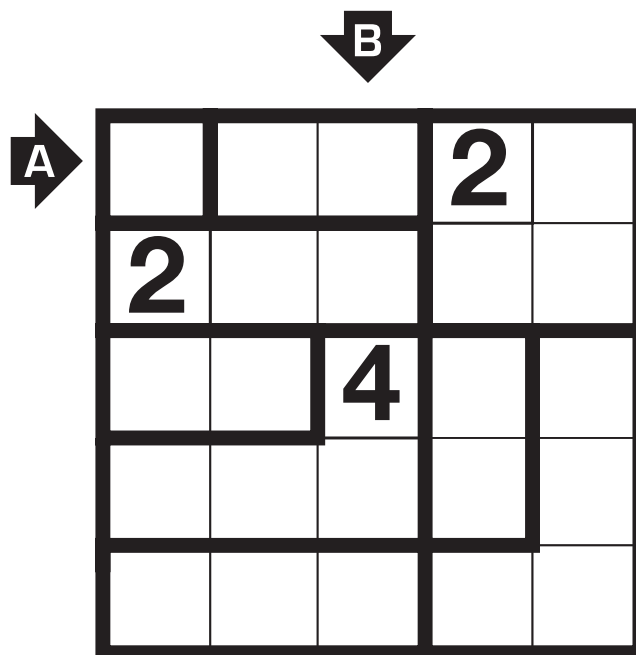
Draw a single loop through the grid, using only horizontal and vertical lines. The loop must pass through each bold-lined 'room' **exactly once**. It cannot enter any cell more than once.

Two adjacent cells in different rooms can not both remain unused by the loop (except diagonally).

Given numbers specify how many cells in certain rooms are visited by the loop.

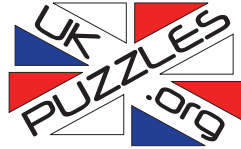


Example ©Gareth Moore



Keys A&B: Enter the marked row/column, with '#' for cells visited by the loop and 's' for other cells, e.g.  
####s,#s###

Fillomino  
30 points



©Anuraag Sahay  
Puzzle 3:11

Fill every empty cell with a number of any value.

Each number forms part of a continuous region of cells of the same value. The region must have the same number of cells as that value.

Two different regions with the same number of cells cannot touch (share an edge).

Some regions may have no given numbers at all, while others may have multiple given numbers.

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

↓ **B**

**A** →

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

Keys A&B: Enter the least-significant digit of each number (e.g. 0 for 10) in the marked row/column, e.g. 1322313334, 1221433444



Shikaku  
20 points



©Tawan Sunathvanichkul  
Puzzle 3:13

Divide the existing cells up into a set of rectangles, so that each rectangle has exactly one of the given numbers inside it.

The given number inside each rectangle must be equal to the quantity of cells it contains.

		2			5	
	4					6
3	4			6		
			10			
7	2					
	10			4	6	
						7
		4			20	

Example ©Gareth Moore

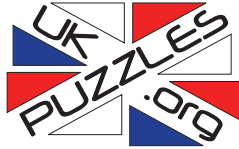
**B** ↓

→ **A**

		2			5	
	4					6
3	4			6		
			10			
7	2					
	10			4	6	
						7
		4			20	

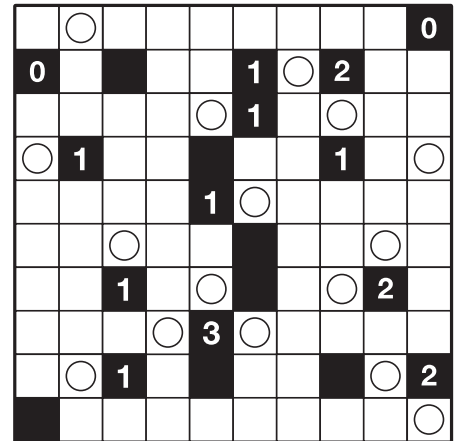
Keys A&B: Enter the least-significant digit of the number (e.g. 0 for 10) of the rectangle covering each cell in the marked row/column, e.g. 3440066666,4444200000

Akari  
30 points

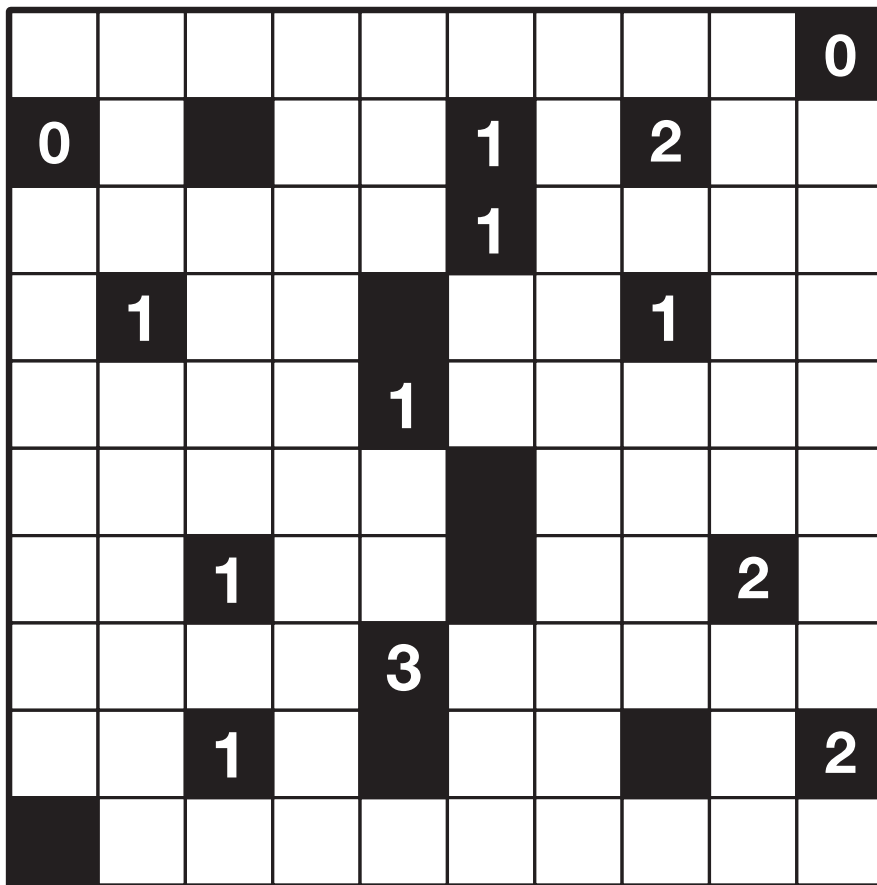


©Anuraag Sahay  
Puzzle 3:14

Place light bulbs in white cells so that all of the white cells in the puzzle either contain a bulb or are lit up by at least one bulb. Light bulbs illuminate all cells in the same row and column up to the first black cell encountered in each direction. No light bulb may illuminate any other light bulb, although empty cells may be lit by more than one bulb. Some black cells contain numbers - these numbers indicate how many light bulbs are placed in the neighbouring cells immediately adjacent above, below, to the right and left of these black cells. Not all light bulbs are necessarily clued via black cells.

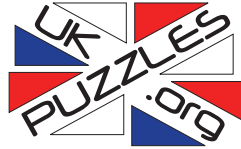


Example ©Gareth Moore



Key: Enter the number of bulbs in each row in turn from top to bottom, e.g. 1122122221

Slitherlink  
20, 20, 30 points



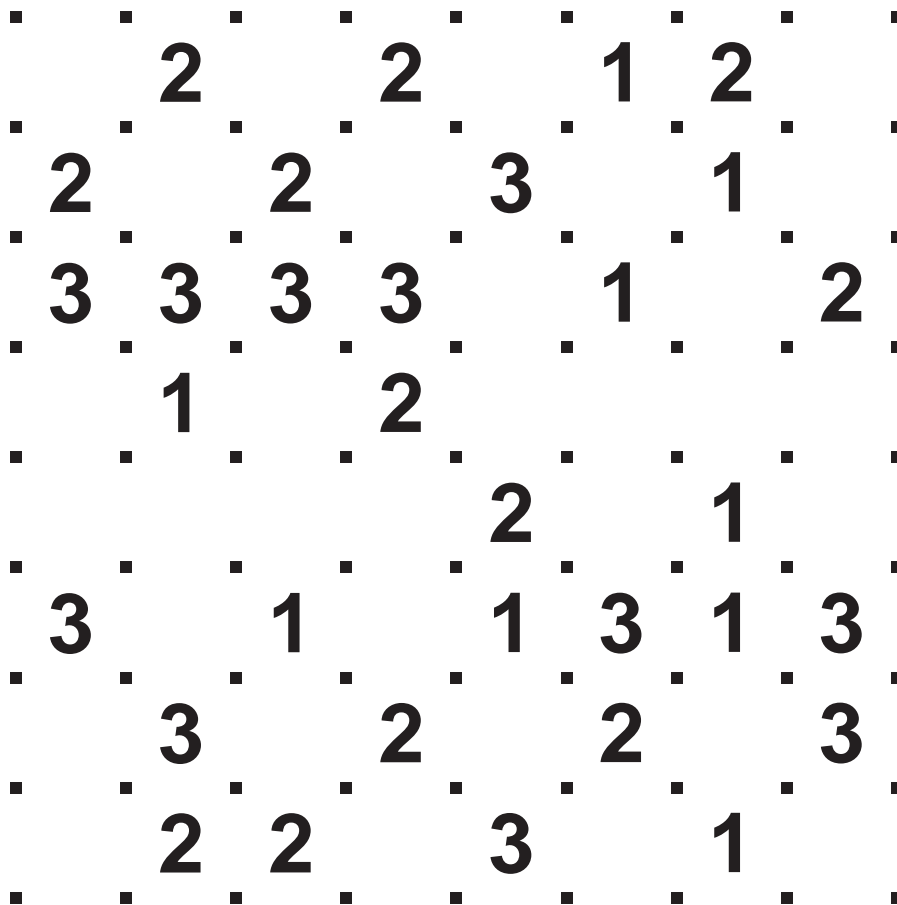
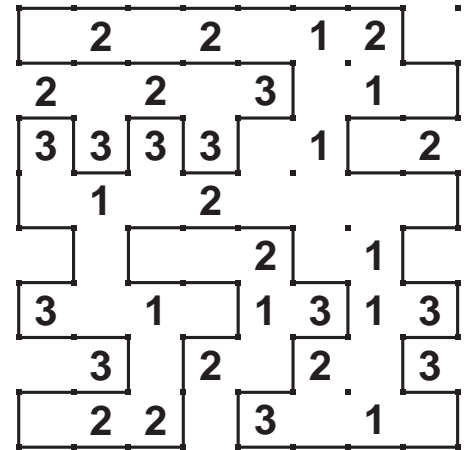
©Gareth Moore

Puzzle 3:15-17

Draw a single loop by connecting together the dots so that each numbered square has the specified number of adjacent line segments.

Dots can only be joined by straight horizontal or vertical lines.

The loop cannot touch, cross or overlap itself in any way.



Key: Enter the least-significant digit of the number of cells inside the loop in each row in turn from top to bottom, e.g. 73483637

Hashi  
30, 30, 40 points

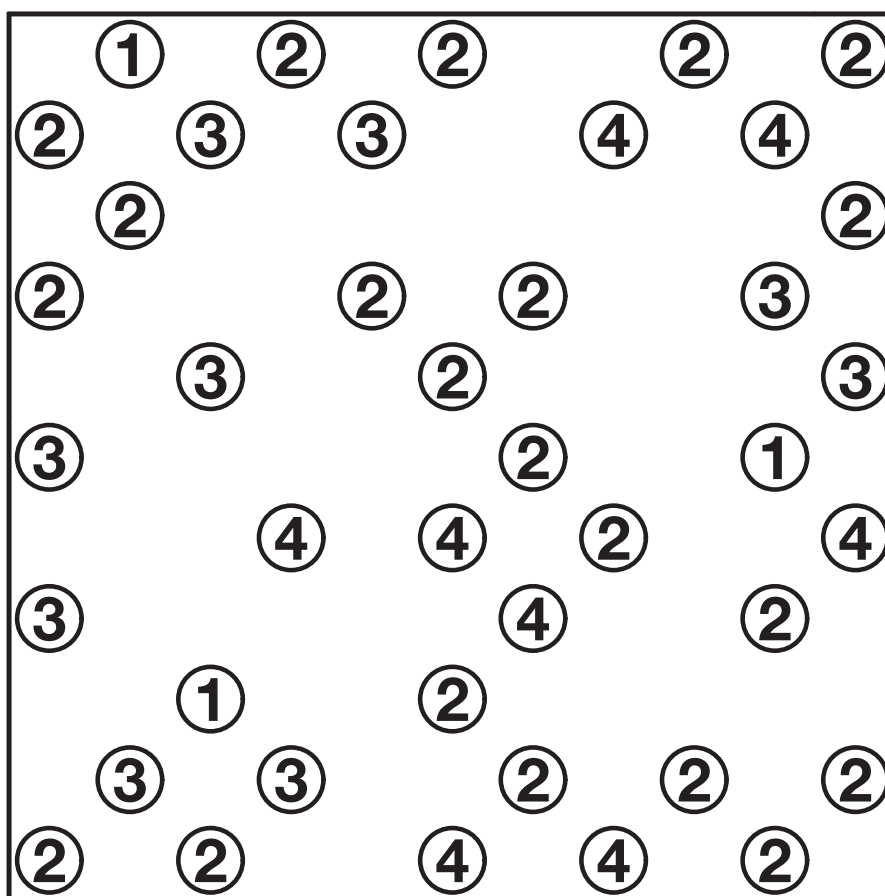
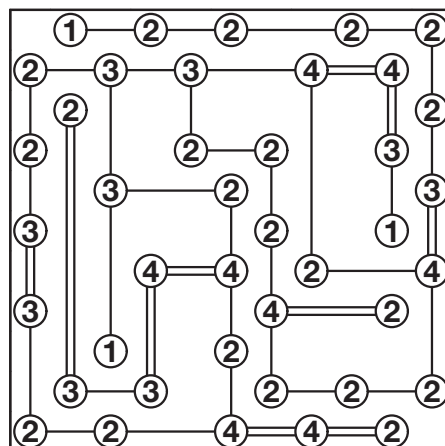


©Gareth Moore

# Puzzle 3:18-20

Join circled numbers with horizontal or vertical lines. Each number must have as many lines connected to it as specified by its value. No more than two lines may join any pair of numbers. No lines may cross.

The finished layout must allow you to travel from any number to any other number just by following one or more lines.



Keys A&B: Enter the number of horizontal double bridges followed by the number of vertical double bridges, e.g. 5,5

# Kakuro 20 & 20 points



©Gareth Moore  
**Puzzle 3:21-22**

Place a digit from 1 to 9 into each empty cell to solve the clues.

Each horizontal run of white cells adds up to the total above the diagonal line to the left of the run, and each vertical run of white cells adds up to the total below the diagonal line above the run.

No digit can be used more than once in any run.

	5	4					15	4	
4	1	3	24	6	17	6	5	1	
18	4	1	2	3	8	16	4	1	3
		20	5	1	9	3	2		
	6	3	1	2	16	4	1	3	
	17	8	9	3	7	1	2	4	
	32	9	7	2	8	6	5	4	
4	4	3	1	17	1	7	4	2	3
3	1	2				4	3	1	

**B**

**A**

	5	4					15	4
4			24	6	17	6		
18						4		
		20						
	6				4			
	17			7				
	32						5	4
4			17					
3						4		

Keys A&B: Enter the digits in the marked row/column, ignoring shaded or clue cells, e.g.  
51932,3138912



# INSTRUCTION BOOK



**UK Open Puzzle Tournament 2012**

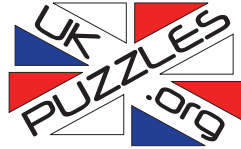
**Round 4:  
UK Themes**

**370 points**

**30 minutes**

Compilation and design ©Gareth Moore for UK Puzzle Association, a non-profit organisation.  
Registered in England & Wales. No. 7281905

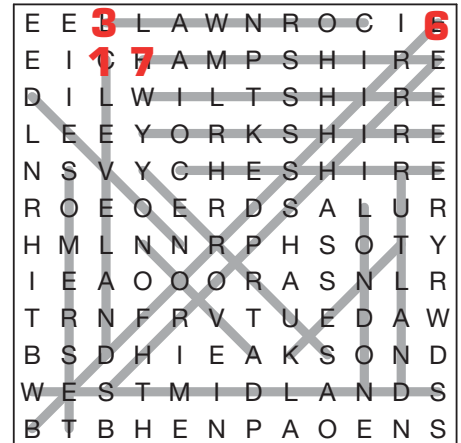
Voyage to the UK  
30 points



©Tawan Sunathvanichkul

Puzzle 4:1

Find all of the listed UK places in the grid, written forwards or backwards in any direction including diagonally.

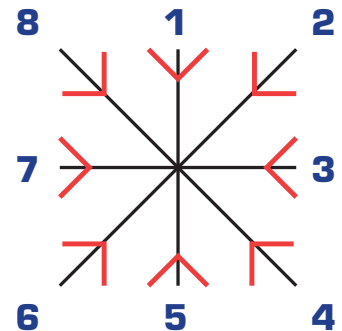


Example ©Gareth Moore



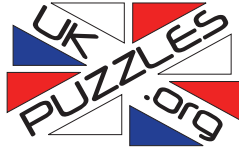
AVON  
BEDFORDSHIRE  
CHESHIRE  
CLEVELAND  
CORNWALL  
DEVON  
HAMPSHIRE  
KENT

LONDON  
RUTLAND  
SHROPSHIRE  
SOMERSET  
SURREY  
WEST MIDLANDS  
WILTSHIRE  
YORKSHIRE



Key: Enter the direction the word travels for the first four highlighted words found, reading left-to-right and then top-to-bottom, as given on the compass beside the puzzle. e.g. 3617.

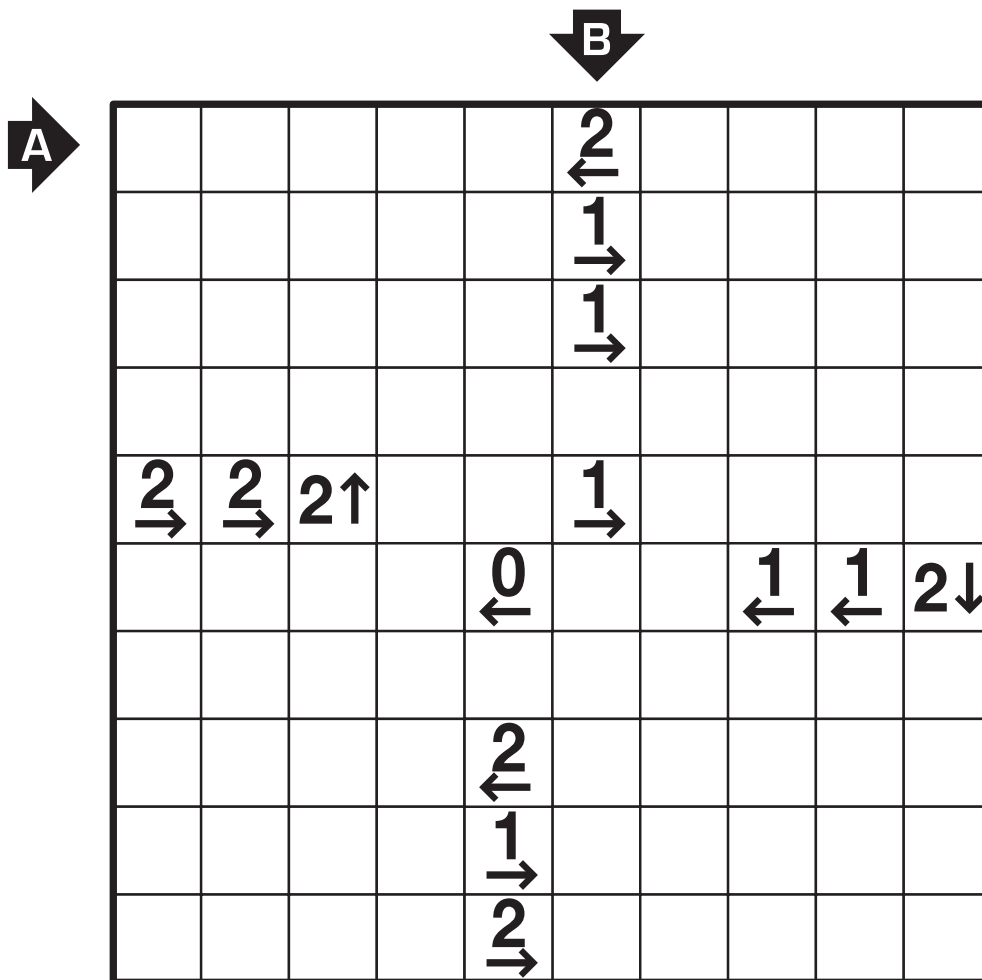
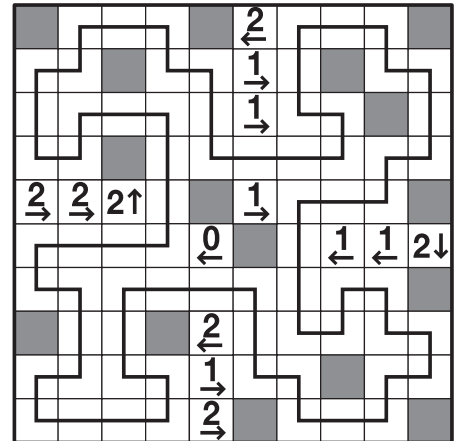
Yajilin  
30 points



©Gareth Moore  
Puzzle 4:2

Draw a single loop using only horizontal and vertical lines such that the loop does not pass through any cell more than once. Any cells which the loop does not visit must be shaded, but none of these shaded cells can touch in either a horizontal or vertical direction.

Numbers with arrows indicate the exact number of shaded cells in a given direction in a specific row or column, but not all shaded cells are necessarily identified with arrows.

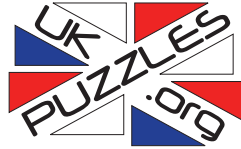


Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
#sss#ssss#,sssss#sss#



Easy As Abbey Road

30 points



©Gabriele Simionato

Puzzle 4:4

Place A, B, B, E and Y into the empty cells so that each row and column contains all the listed letters, plus one space. Some squares will therefore be empty. Letters outside the grid indicate which letter appears closest to that end of the row or column.

You must be able to spell out the word "ABBEY" exactly once in any horizontal or vertical direction, ignoring spaces.

In the example puzzle, use R, O, A and D and spell the word "ROAD" instead.

		O	A	D	
	R	A	D	O	
O		D	R	A	A
A	O	R		D	D
R	D	O	A		
D	A		O	R	
					O

		R			
			A		
D					

B

O    A    D

O

A

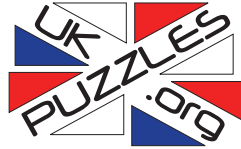
D

D

O

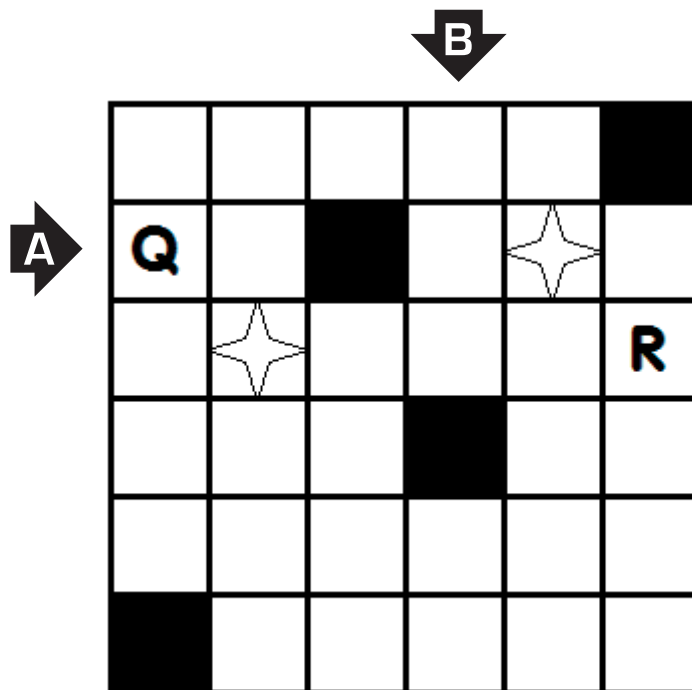
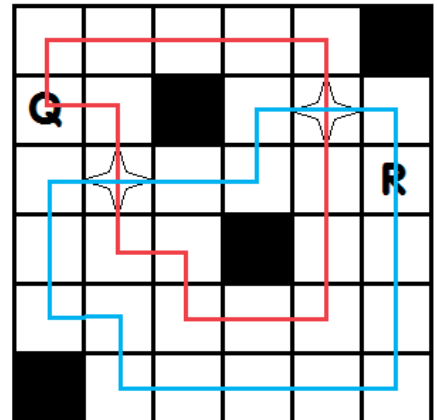
Keys A&B: Enter the letters in the marked row/column, with 's' for empty cells, e.g. AORsD,ADROs

QPR  
10 & 20 points



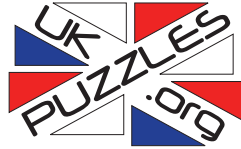
©Gabriele Simionato  
Puzzle 4:5-6

Draw two loops in the grid out of horizontal and vertical lines, such that one loop passes through all of the Qs and the other passes through all of the Rs. Every cell must be visited by exactly one loop, except for the starred cells where both paths must cross.



Keys A&B: Enter the marked row/column, with 'Q' for cells containing the Q loop, and 'R' for cells containing the 'R' loop. Use '#' for pre-shaded or starred cells, e.g. QQ#R#R,QRR#QR

Odd Sum Loop  
100 points



©Vladimir Portugalov  
Puzzle 4:7

Fill in the grid with the numbers 1 to 8 so that they are used exactly once in each row and column. Also, draw a single closed loop along the grid lines.

The loop can freely travel along the outer border but inside the grid it can only go between pairs of cells which sum to an odd total. The loop cannot touch itself, even at a point.

Some fragments of the loop are given.

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

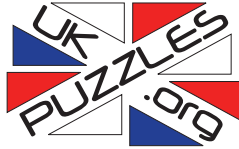
**B** ↓

→ **A**

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

Keys A&B: Enter the marked row/column, ignoring the loop. E.g. 46275318,21753684

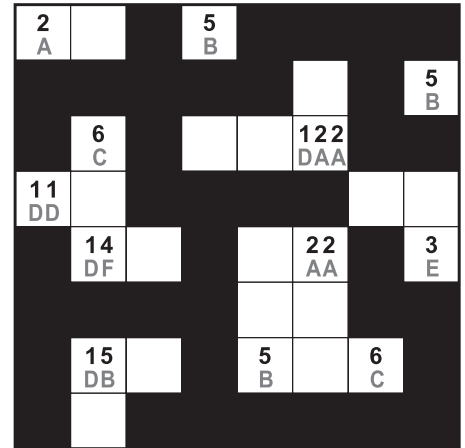
Tapa Logic  
50 points



©Vladimir Portugalov  
Puzzle 4:8

In this puzzle each letter A to F uniquely corresponds to a number from 1 to 6.

Shade some empty cells to create a continuous shaded region. The clues reveal the count of neighbouring shaded cells: considering the 8 cells around a clue as a circular region, the clues give the length of all shaded sets of cells in that region. If there are multiple numbers in a cell then the different shaded sets of cells must have at least one white cell between them. Tapa clues cannot themselves be shaded, and there can be no 2x2 shaded regions.



A			B				
							B
	C				DAA		
DD							
	DF				AA		E
	DB			B		C	

Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
#####s#s,s#s#####



Statue Park  
40 points

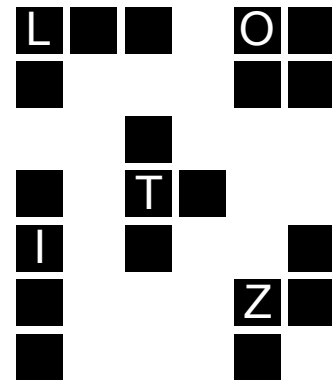
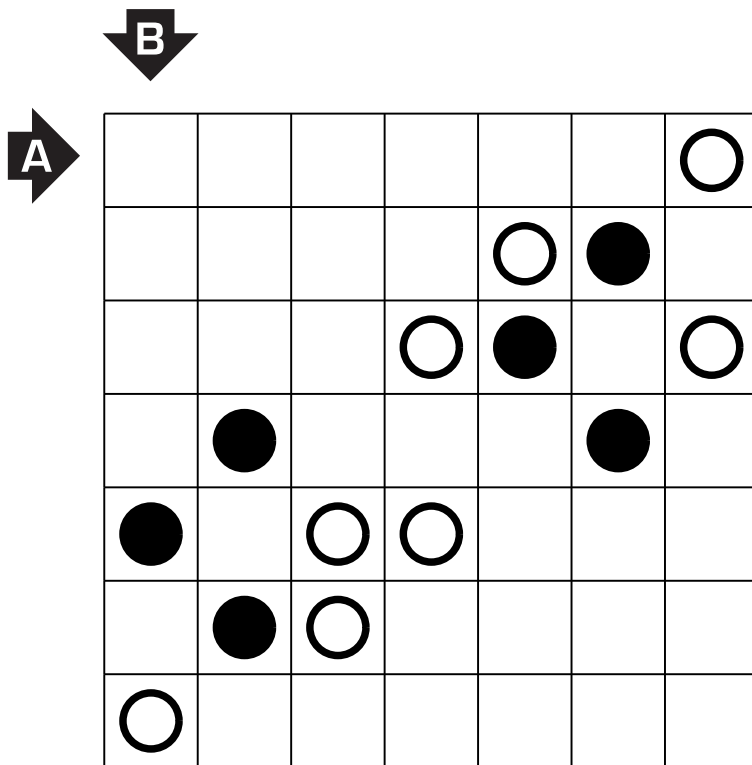
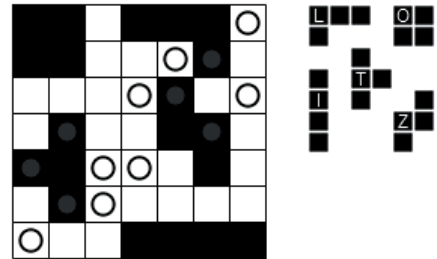


©Palmer Mebane  
Puzzle 4:9

Place the given shapes exactly once each into the grid.  
Shapes may be rotated and/or reflected.

No two shapes can overlap or touch, except diagonally,  
and all of the cells not occupied by shapes must form a  
single connected area.

Black circles in the grid indicate cells that must contain  
part of a shape, and white circles indicate cells which  
are not part of a shape.



Keys A&B: Enter the marked row/column, with '#' for shaded cells and 's' for other cells, e.g.  
##s###s,##ss#ss

# INSTRUCTION BOOK



**UK Open Puzzle Tournament 2012**

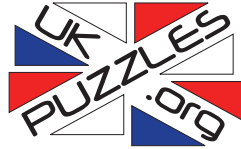
**Round 5:  
Novelties**

**700 points**

**60 minutes**

Compilation and design ©Gareth Moore for UK Puzzle Association, a non-profit organisation.  
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Flip Mirror Sums  
30 points

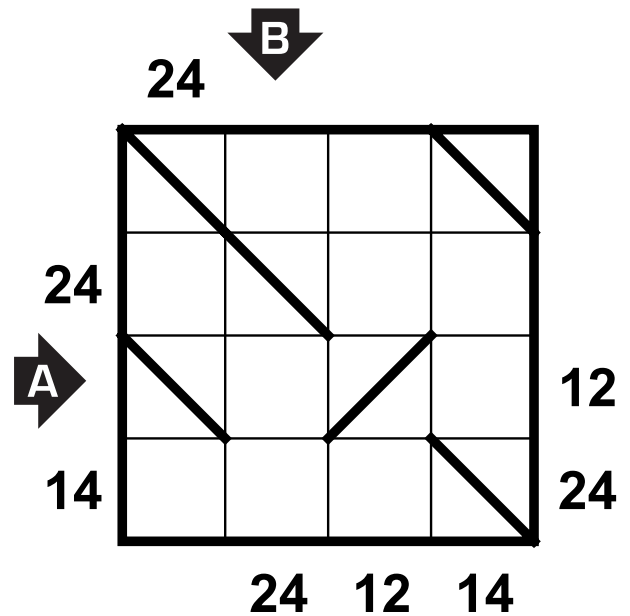
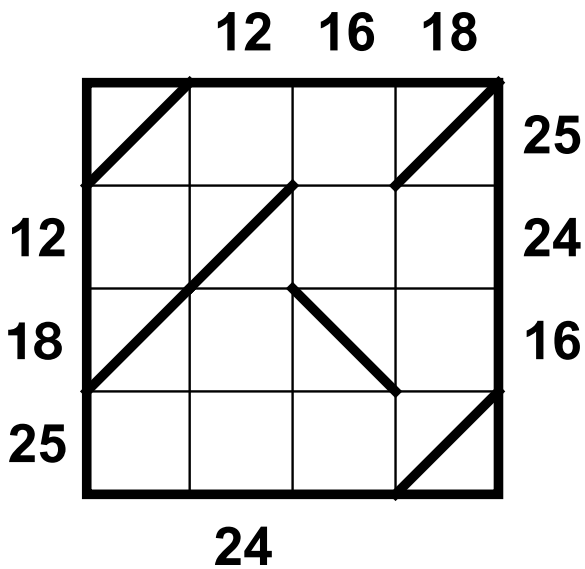
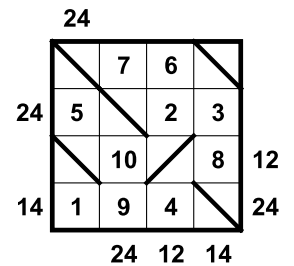
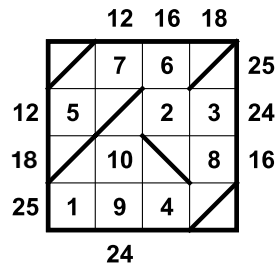


©David Millar

Puzzle 5:1

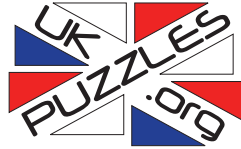
Place 1 to 10 once each into the empty cells in each grid, so that every number is in the same position in each grid.

The double-sided mirrors in the grid reflect the line of sight, with numbers outside the grid giving the total value of the values seen in the cells from that point (with light travelling horizontally and vertically only). If the path passes through a number more than once, add that number each time the line of sight passes through it.



Keys A&B: Enter the marked row/column as a digit sequence, ignoring any mirrors, e.g. 108,7109

Number Parquet  
60 points

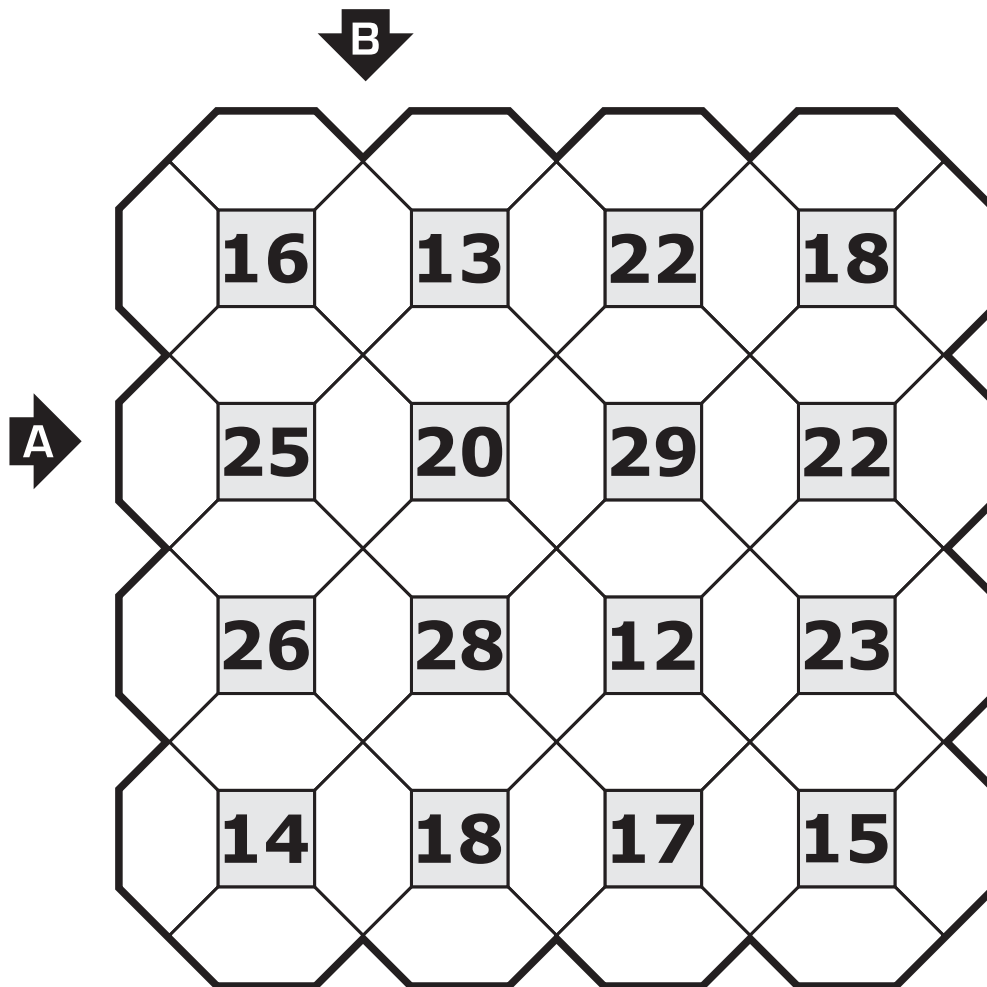
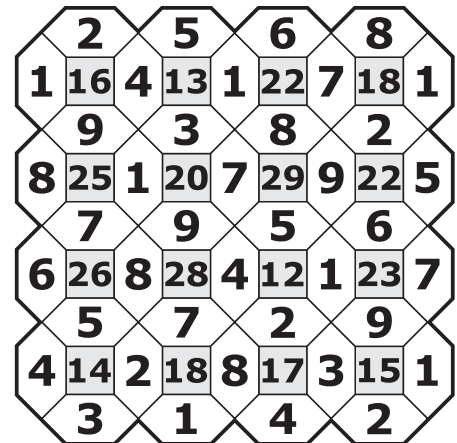


©Andrey Bogdanov  
Puzzle 5:2

Fill in each empty cell with a digit from 1 to 9.

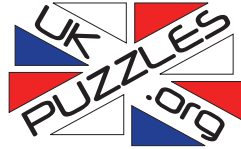
Numbers in grey cells are equal to the sum of the digits in the four touching cells.

The digits around each grey cell are **all different**, and **increase clockwise** in numeric order.



Keys A&B: Enter the digits in the cells in the marked row/column, ignoring any grey clue cells, e.g. 81795,4182.

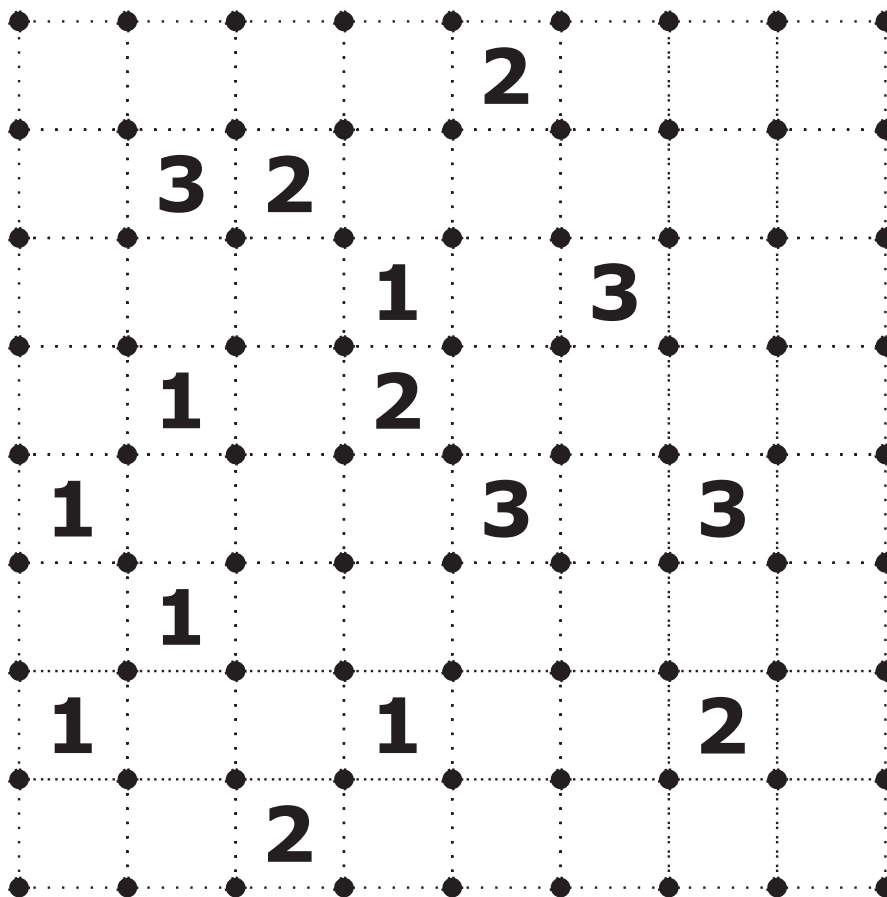
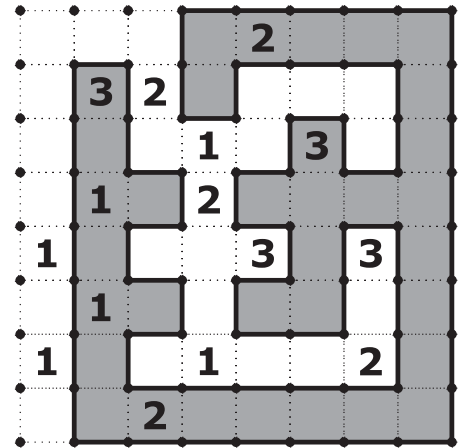
Yin Yang Fence  
50 points



©Andrey Bogdanov  
Puzzle 5:3

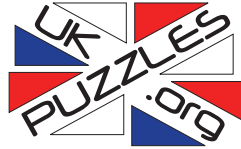
Draw a single loop along the grid lines so that each numbered square has the specified number of adjacent line segments. The loop cannot touch, cross or overlap itself in any way.

Both areas (inside and outside the loop) must each form a single connected area without any 2x2 squares.



Key: Enter the least-significant digit of the number of cells inside the loop in each row in turn from top to bottom, e.g. 53363527

# Skyscrapers By 3 60 & 80 points



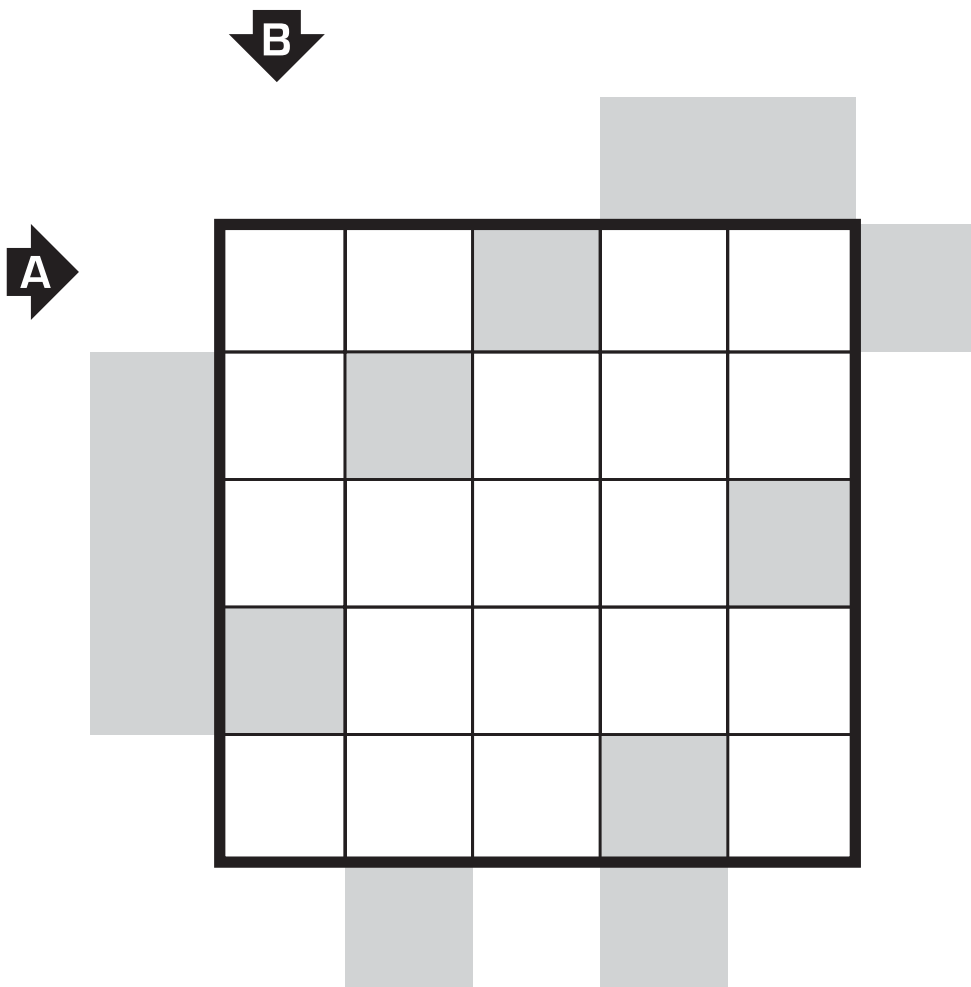
©Andrey Bogdanov  
**Puzzle 5:4-5**

Insert a digit from 1 to the grid size into every cell, so that each digit appears once in each row and column.

Each digit in a cell represents the height of a building. Numbers outside the grid indicate how many buildings a distant observer could see in that row or column. A building will hide any shorter buildings behind it.

All numbers divisible by 3 are shaded.

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



Keys A&B: Enter the marked row/column, ignoring the exterior clues, e.g. 45312,41235

Tiktaka  
50, 50, 60 points

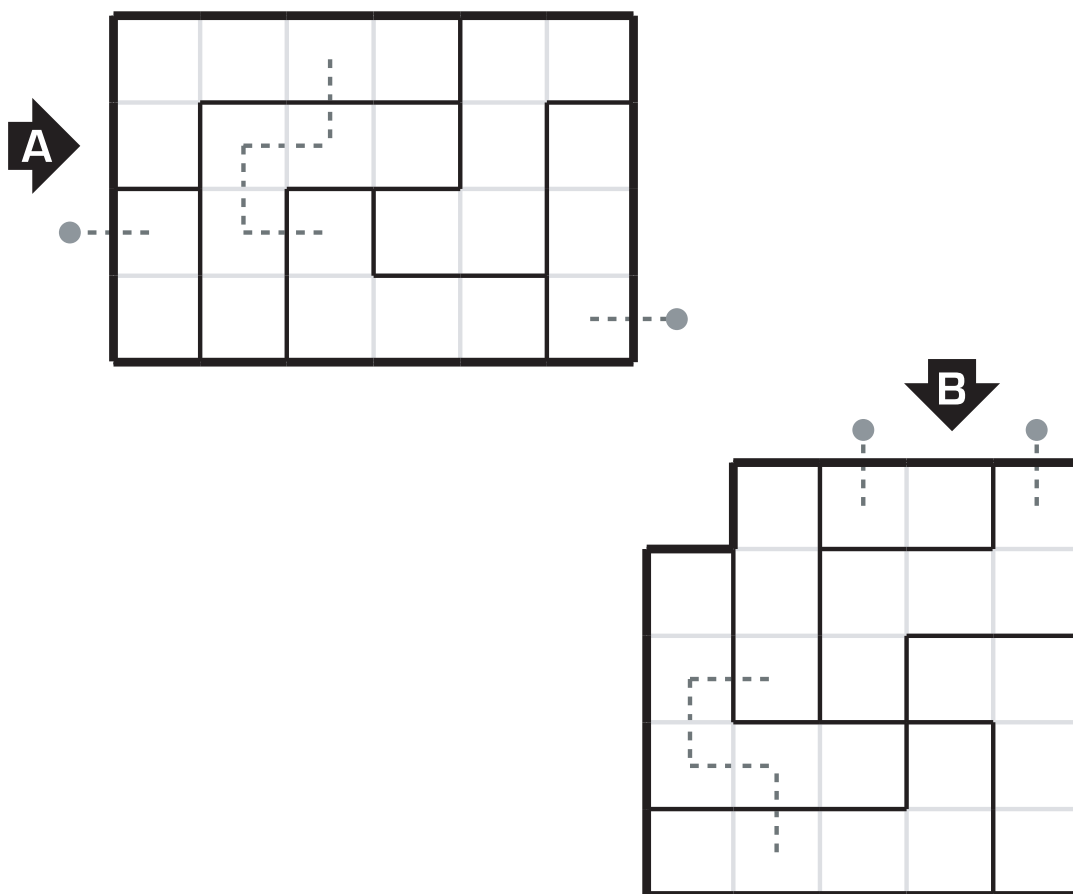
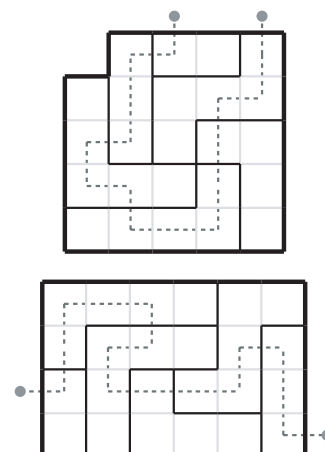


©Vexus Puzzle Design  
Puzzle 5:6-8

Find a path from the entrance to the exit of each grid such that it passes through each shape exactly once, and each shape has an identical path through it in both grids.

Shapes, and therefore the path through them, may be rotated and/or reflected between grids.

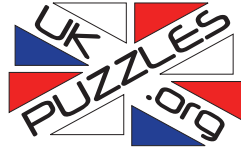
Some path segments may be given.



Keys A&B: Enter the marked row/column, with '#' for cells visited by the path and 's' for other cells, e.g. ###s##,s####

# Foggy Spanish Armada

## 90 points



©Gabriele Simionato

# Puzzle 5:9

Locate the position of each of the listed ships in the grid. Ships can be placed horizontally or vertically only, and are surrounded on all sides by water (or the edge of the grid), including diagonally.

Numbers to the top and left of the grid tell you the number of ship segments in each row and column. Precisely one of the two numbers given is correct in each case.

The listed ship segments also contain cannons. The numbers to the bottom and right of the grid tell you the total number of cannons in each row and column. Precisely one of the two numbers given is correct in each case.

Some ship segments and water may be already given.

	2 3	0 2	0 2	1 2	1 2	
1-3						1-5
1-3						1-2
1-2						3-5
0-1						0-2
1-2						0-1
	1 5	0 2	1 3	1 4	1 5	

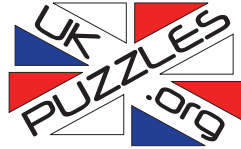
			<b>B</b>		
	2 3	0 2	0 2	1 2	1 2
1-3					
1-3					
<b>A</b>	1-2				
0-1					
1-2					
	1 5	0 2	1 3	1 4	1 5


Keys A&B: Enter the number of cannons in each cell of the given row/column (including 0 for a ship segment without cannons), and 's' for empty cells, e.g. 2s1ss,ss1s0



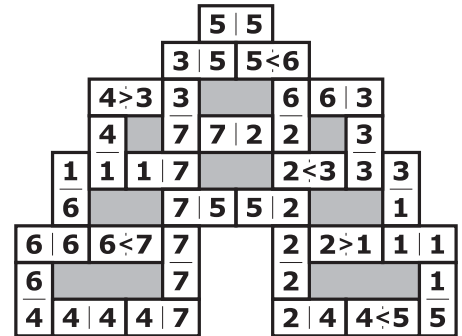


Inequality Castle  
90 points

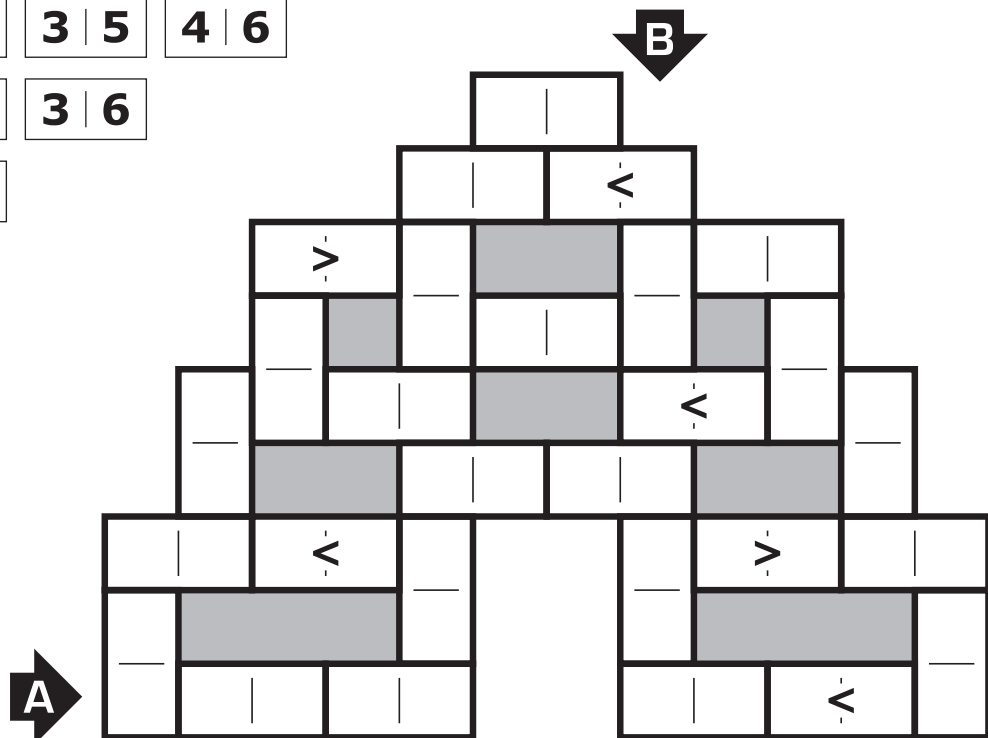


©Andrey Bogdanov  
Puzzle 5:11

Place the given domino set into the domino shapes according to domino rules - touching halves must have the same values. All given inequality signs must be obeyed.



- 1 | 1    2 | 2    3 | 3    4 | 4    5 | 5    6 | 6
- 1 | 2    2 | 3    3 | 4    4 | 5    5 | 6
- 1 | 3    2 | 4    3 | 5    4 | 6
- 1 | 4    2 | 5    3 | 6
- 1 | 5    2 | 6
- 1 | 6



Keys A&B: Enter the digits in the given row/column, ignoring shaded or unused areas. E.g.  
4444724455,66222222