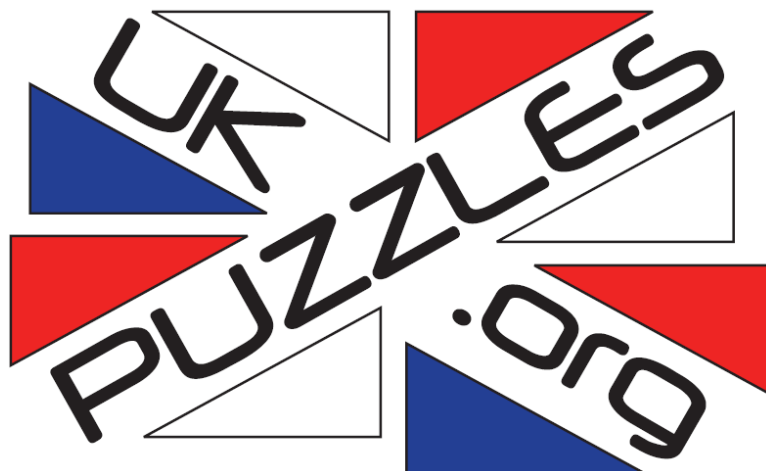




UKPA Open Tournament

1st -2nd April, 2023

Round 5

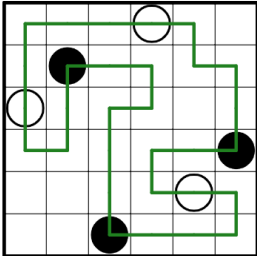
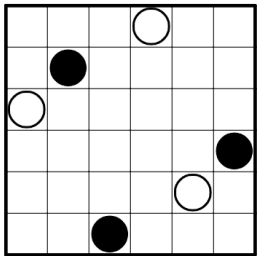
Puzzles by Tawan Sunathvanichkul
Puzzle Espionage

	Puzzle	Points
1	Masyu	12
2	Imposter Masyu	30
3	Pentominous	22
4	Imposter Pentominous	18
5	Thermometers	20
6	Imposter Thermometers	45
7	Killer Sudoku	42
8	Imposter Killer Sudoku	55
9	Tetroscope	16
10	Imposter Tetroscope	19
	Total	** Expression is faulty **

Time: 45 minutes.

1 Masyu (12)

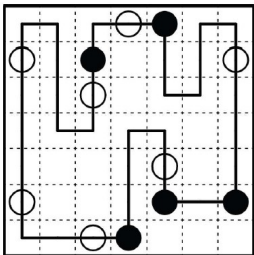
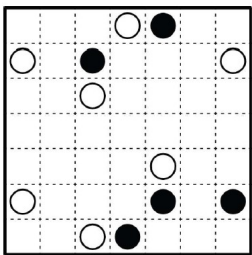
Draw a single loop, travelling horizontally and vertically, connecting the centres of some cells. The loop must pass through every cell containing a circle. At each cell containing a black circle, the loop must make a 90 degree turn and must travel straight for at least two cells on either side of the circle. At each cell containing a white circle, the loop must pass straight through the circle and must make a 90 degree turn in at least one of the cells immediately before or after the circle.



2 Imposter Masyu (30)

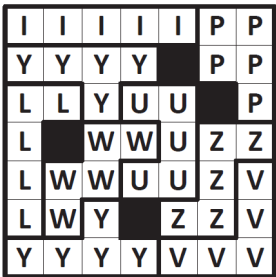
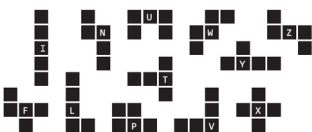
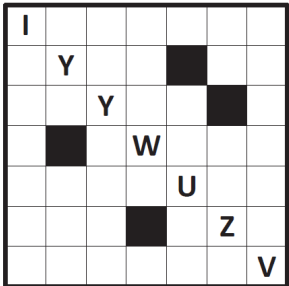
Draw a single loop, travelling horizontally and vertically, connecting the centres of some cells. The loop must pass through every cell containing a circle. At each cell containing a black circle, the loop must make a 90 degree turn and must travel straight for at least two cells on either side of the circle. At each cell containing a white circle, the loop must pass straight through the circle and must make a 90 degree turn in at least one of the cells immediately before or after the circle.

In addition, one of the circles will behave like its counterpart. In other words, either a black circle is a white circle in disguise or vice versa.



3 Pentominous (22)

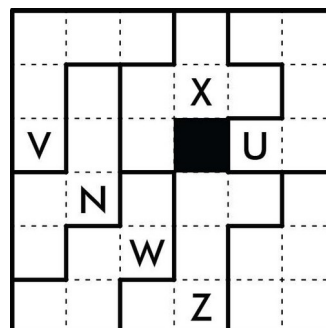
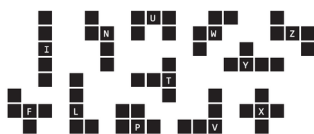
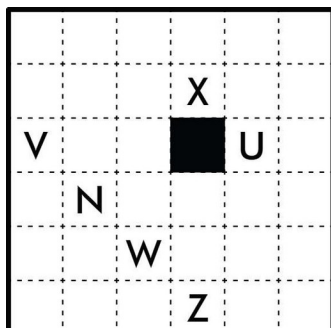
Divide the grid into pentominoes (five cell regions) so that no two pentominoes of the same shape (including rotations and reflections) share an edge. Black cells cannot be part of any pentomino shape. A cell with a letter in it must be part of the pentomino associated with that letter. The pentominoes with their associated letter will be given in the competition booklet. Not all pentomino shapes need to be used.



4 Imposter Pentominous (18)

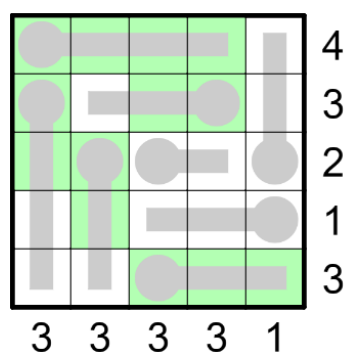
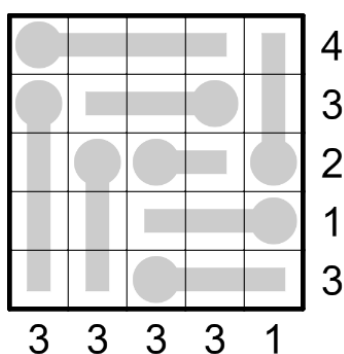
Divide the grid into pentominoes (five cell regions) so that no two pentominoes of the same shape (including rotations and reflections) share an edge. Black cells cannot be part of any pentomino shape. A cell with a letter in it must be part of the pentomino associated with that letter. The pentominoes with their associated letter will be given in the competition booklet. Not all pentomino shapes need to be used.

In addition, one of the given clues is wrong and must belong to a different pentomino as the one labelled.



5 Thermometers (20)

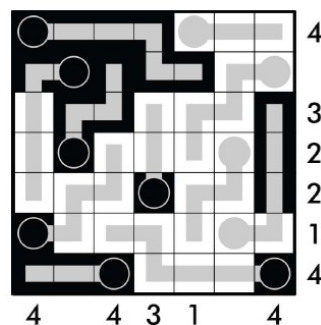
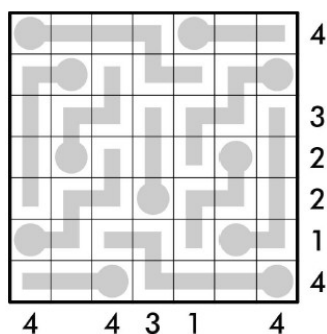
Fill in thermometers so that each number outside the grid identifies the number of cells being filled in that row/column. Thermometers must be filled from the bulb. Some thermometers may remain empty.



6 Imposter Thermometers (45)

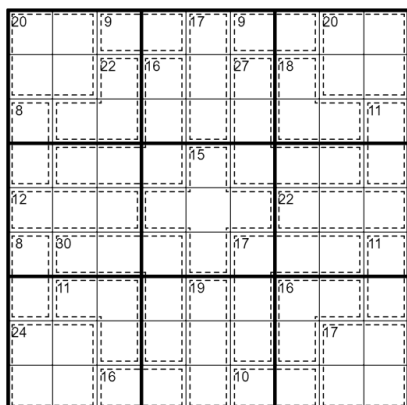
Fill in thermometers so that each number outside the grid identifies the number of cells being filled in that row/column. Thermometers must be filled from the bulb. Some thermometers may remain empty.

In addition, one of the thermometers will be filled in from the end to the bulb. This thermometer will not be empty.



7 Killer Sudoku (42)

Fill the grid with numbers 1-9 so that each number appears once in each row, column and bold edged region. In addition, numbers in each caged region must add up to the given sum. Numbers may not repeat in a cage.



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

8 Imposter Killer Sudoku (55)

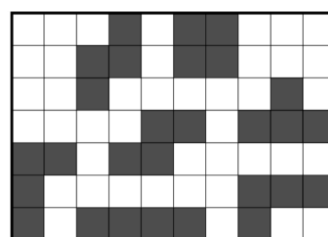
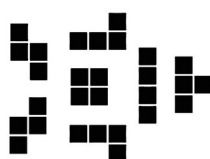
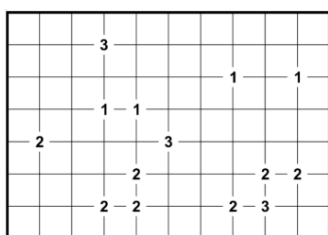
Fill the grid with numbers 1-9 so that each number appears once in each row, column and bold edged region. In addition, numbers in each caged region must add up to the given sum. Numbers may not repeat in a cage. **In addition, one of the cages is wrong. Numbers inside the cage must not add to the indicated sum.**



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

9 Tetroscope (16)

Place the given set of tetrominoes in the grid using each exactly once. They may be rotated but not reflected. Digits in the grid show how many cells of the marked intersection is occupied by tetrominoes. Tetrominoes may not touch each other, even at a point.



10 Imposter Tetroscope (19)

Place the given set of tetrominoes in the grid using each exactly once. They may be rotated but not reflected. Digits in the grid show how many cells of the marked intersection is occupied by tetrominoes. Tetrominoes may not touch each other, even at a point. **In addition, one of the clues is wrong.**

