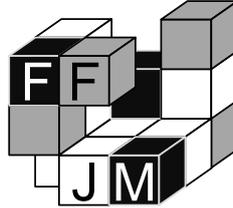# French WPC Qualifying Test 2012 – Instructions

Saturday June 9, 2012

Schedule

10:00–10:30	Part 1 - Getting started	30 minutes	175 points
10:40–11:10	Part 2 - Mix-up	30 minutes	140 points
11:20–11:45	Part 3 - False clues	25 minutes	120 points
11:55–13:10	Part 4 - Assorted puzzles	75 minutes	400 points

In each round, a competitor who submits correct answers to all puzzles before the end of the round will receive a bonus of 5 points for each remaining full minute.

French WPC Qualifying Test 2012 – Instructions

Part 1 – Getting started – 30 minutes – 175 points + time bonus

A competitor who submits correct answers to all puzzles before the end of the round will receive a bonus of 5 points for each remaining full minute.

---

1. Differences (10 points)

The two images are nearly identical up to a reflection. Find the 5 differences between them. Mark the differences clearly on one or the other image (circle a reasonably sized area around each difference).

(2 points for each difference found)

---

2. Password Path (15 points)

Draw a path from the gray cell in the upper-left corner to the gray cell in the lower-right corner, passing exactly once through each cell of the grid. The path connects the centers of cells that are horizontally, vertically or diagonally adjacent to each other, without crossing or overlapping itself. The letters of the given password repeat in order as one goes along the path.

Example : WPC

W	C	P	C
P	W	W	W
P	C	P	C

Solution :

---

3. Tents (15 points)

Locate the tents in the grid. Each tree is connected to exactly one tent, found in a horizontally or vertically adjacent square. Tents do not touch each other, not even diagonally. The numbers outside the grid reveal the total number of tents in the corresponding row or column.

Example :

Solution :

4. Square Cut
(15 points)

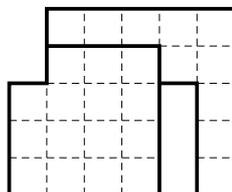Cut the figure into two parts that can be reassembled (without reflecting them and without overlap) to form a square.
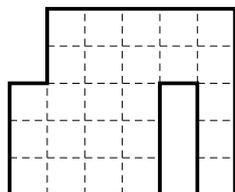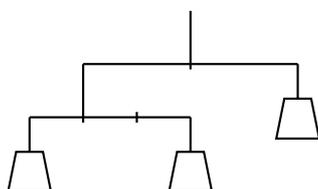
Example :   **Solution :**
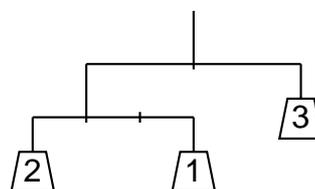
5. Balancing
(10 points)

Assign the values 1 to 9 to the weights in the diagram so that everything balances as shown. (The beams have negligible weight). Each value will be used exactly once.

Example : (1 to 3)   **Solution :**

6. Tapa
(20 points)

Paint some empty cells black to form a continuous wall of black cells (connected to each other horizontally or vertically). No 2x2 square can be completely black. The number(s) in a square indicate the lengths of the consecutive blocks of black cells among the adjacent squares (horizontally, vertically or diagonally): each number represents one block of black cells, and when there is more than one number in a square, the black cell blocks must be separated by at least one white cell. The order in which the numbers are given is irrelevant.

Example :   **Solution :**

7. No Four in a Row
(20 points)

Fill in the grid with O and X so that four consecutive identical symbols never appear in any row, column, or diagonal.

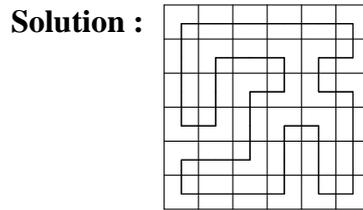**Example :**   **Solution :**
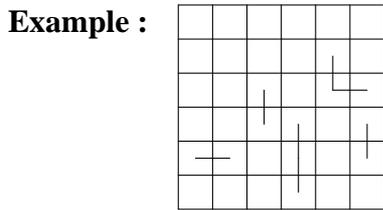
O	X	X	X	O	O	X
O	O	O	X	X	O	O
O	X	X	O	O	X	O
X	X	O	O	O	X	O
O	X	X	O	O	X	X
O	O	O	X	X	O	X
O	X	O	O	O	X	X

8. Loop Finder
(20 points)

Draw a continuous loop formed by straight line segments connecting the centers of adjacent squares. The loop must not cross or overlap itself, and must visit all squares. Some parts of the loop are already given.

Example :

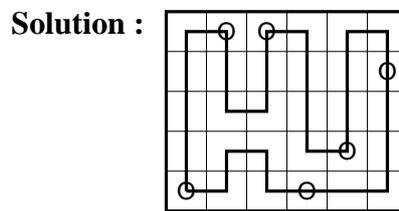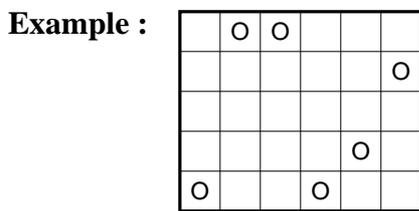**Solution :**

9. Loop in Five
(25 points)

Draw a continuous loop formed by straight line segments connecting the centers of adjacent squares. The loop must not cross or overlap itself, and must visit all squares. Every fifth square along the path of the loop is marked by a circle.

Example :

Solution :

10. Star Battle
(25 points)

Place two stars in each column, each row, and each black-edged region of the grid. The stars do not touch each other, not even diagonally.

Example :

Solution :
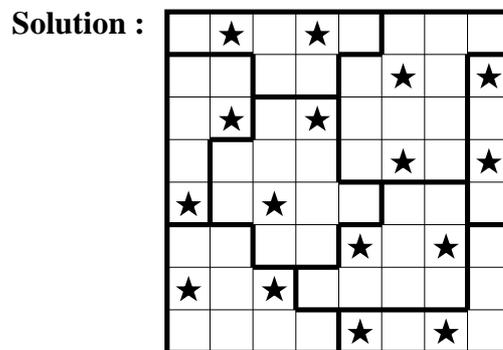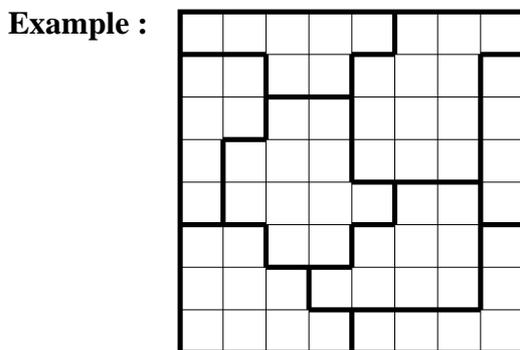
French WPC Qualifying Test 2012 – Instructions

Part 2 – Mix-up – 30 minutes – 140 points + time bonus

A competitor who submits correct answers to all puzzles before the end of the round will receive a bonus of 5 points for each remaining full minute.

All the puzzles in this part are WPC classics... Each page contains several puzzles; unfortunately, the author has forgotten which grid corresponds to which puzzle!

Please note: some individual grids can correspond to several puzzle types, but there is only one way to solve all the grids in such a way that each puzzle type occurs exactly once. Points will be given for solving individual grids only when the given solution is part of a consistent solution to the complete set of grids.

## 1. Minesweeper, 1234 Connect, Islands, Cave   (4*10 points)

Minesweeper: There are 26 mines hidden in the diagram, at most one in a given square. The numbers inside the diagram indicate the number of mines that can be found in the squares immediately adjacent to that square (horizontally, vertically, or diagonally). Squares with a number do not contain mines. Find the mines.

1234 Connect: Connect each pair of identical numbers with an unbroken line. The lines do not intersect or overlap, and pass through the centers of (horizontally or vertically) consecutive squares. Every square of the grid must be used.

Islands: Shade some empty cells black so that the grid is divided into white areas (islands), separated by blackened cells which are linked together to form a continuous sea. Each island should contain exactly one of the given numbers, which is equal to its area. The islands may touch each other only diagonally. The sea cannot form any 2x2 square.

Cave: Draw a closed loop around a connected set of cells without any holes in it (the cave). The loop cannot overlap or intersect itself. All the cells containing a clue are part of the cave. Each clue indicates the number of cells in the cave that can be seen in a straight line (horizontally or vertically) from the given cell, which is not included in the count.

Example : (11 mines)   **Solution :**

5
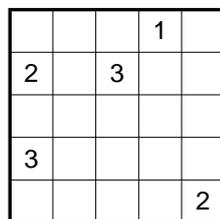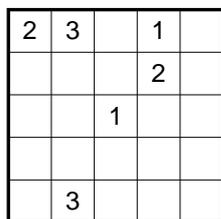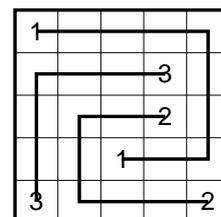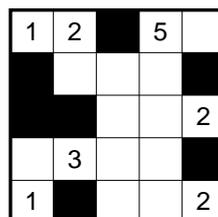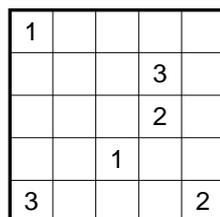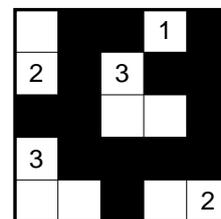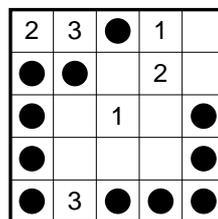
2. Meanders, End view, Skyscrapers, Battleships   (4*25 points)

Meanders: Find a route starting in the top left square and ending in the bottom right square. The route meanders horizontally or vertically, and the numbers outside the grid indicate the number of occupied squares in that row or column.

End view: Place the numbers 1, 2, 3, 4 into the diagram, so that each digit occurs once in each row and column. The clues outside the diagram indicate the first digit seen from that direction.

Skyscrapers: The grid represents a group of skyscrapers. Each row and column contains 6 skyscrapers of different heights from 1 to 6 (the other cells remain empty). The numbers outside the grid indicate how many skyscrapers are visible from that direction (a building located behind a taller one in the same row is completely hidden).

Battleships: Locate the position of the given fleet (shown in the margin) in the grid. Each segment of a ship occupies a single cell. Ships are oriented either horizontally or vertically, and they do not touch each other, not even diagonally. The numbers outside the grid reveal the total number of ship segments that appear in each respective row or column.

In each grid, the cells marked with an X remain empty.

Example : (skyscrapers from 1 to 4)   **Solution :**

French WPC Qualifying Test 2012 – Instructions

Part 3 – False clues – 25 minutes – 120 points + time bonus

A competitor who submits correct answers to all puzzles before the end of the round will receive a bonus of 5 points for each remaining full minute.

All the puzzles in this part are WPC classics... unfortunately, all the given clues are wrong!

---

1. False Minesweeper   (10 points)

Each square of the grid contains at most one mine. The numbers inside the diagram are never equal to the number of mines that can be found in the squares immediately adjacent (horizontally, vertically, or diagonally) to the square containing the clue. Squares with a number do not contain mines. Find the mines.

Example :

0		1
2	2	
	0	

Solution :

0	●	1
2	2	●
	0	●

---

2. False Easy as ABC   (10 points)

Place the letters A, B and C into the diagram, so that each letter occurs exactly once in each row and column. The clues outside the diagram never indicate the first letter seen from that direction. Some letters are already placed (correctly).

Example :

```
      C  A
   A  ┌─┬─┬─┬─┐  A
      │ │ │ │ │
      ├─┼─┼─┼─┤
      │ │A│ │ │
   B  ├─┼─┼─┼─┤
      │ │ │C│ │
      ├─┼─┼─┼─┤
      │ │ │ │ │  B
      └─┴─┴─┴─┘
      A  C
```

Solution :

```
      C  A
   A  ┌─┬─┬─┬─┐  A
      │ │C│A│B│
      ├─┼─┼─┼─┤
      │B│A│ │C│
   B  ├─┼─┼─┼─┤
      │A│B│C│ │
      ├─┼─┼─┼─┤
      │C│ │B│A│  B
      └─┴─┴─┴─┘
      A  C
```

---

3. False Skyscrapers   (10 points)

The grid represents a group of skyscrapers. Each row and column contains skyscrapers of different heights from 1 to 5. The numbers outside the grid never indicate how many skyscrapers are visible from that direction (a building located behind a taller one in the same row is completely hidden).

Example : (de 1 à 3)

```
        3  3
   1  ┌─┬─┬─┐  1
      │ │ │ │
   2  ├─┼─┼─┤
      │ │ │ │
      ├─┼─┼─┤
      │ │ │ │  3
      └─┴─┴─┘
         1
```
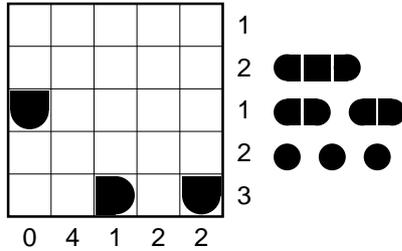
Solution :

```
        3  3
   1  ┌─┬─┬─┐  1
      │2│3│1│
   2  ├─┼─┼─┤
      │1│2│3│
      ├─┼─┼─┤
      │3│1│2│  3
      └─┴─┴─┘
         1
```

---

4. False Battleships (20 points)

Locate the position of the fleet (shown below) in the grid. Each segment of a ship occupies a single cell. Ships are oriented either horizontally or vertically, and they do not touch each other, not even diagonally. The numbers outside the grid are never equal to the total number of ship segments that appear in the corresponding row or column. Some ship segments are already placed.
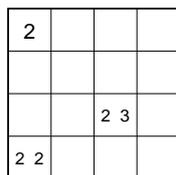
Example :

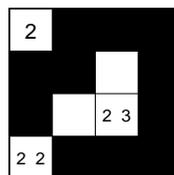**Solution :**
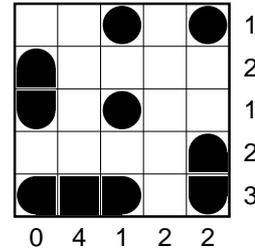
5. False Tapa (15 points)

Paint some empty cells black to form a continuous wall of black cells (connected to each other horizontally or vertically). No 2x2 square can be completely black. The number(s) in a square never indicate the lengths of the consecutive blocks of black cells among the adjacent squares (horizontally, vertically or diagonally). Each number represents one block of black cells, and when there is more than one number in a square, the black cell blocks must be separated by at least one white cell. The order in which the numbers are given is irrelevant. For example, if a cell contains the clues 2 and 3, then the adjacent squares contain two black cell blocks, and neither of these two blocks consists of 2 or 3 black cells.
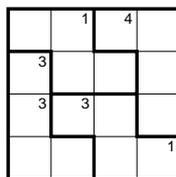
Example :
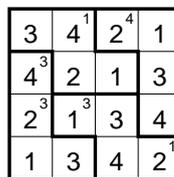

Solution :

6. False Sudoku (25 points)

Fill in the grid with digits from 1 to 6 so that each digit appears exactly once in each row, column, and highlighted area. The given clues are all wrong.

Example :

Solution :


8

## 7. False Snake   (30 points)

Draw a snake consisting of horizontal and vertical line segments connecting the centers of adjacent cells of the grid. The snake occupies 49 squares of the grid, and cannot touch itself, not even diagonally. The numbers in the margin are never equal to the number of cells occupied by the snake in the corresponding row or column. The two extremities of the snake and its mid-point are already placed. The black cells cannot be traversed by the snake.

Example : (15 cells)
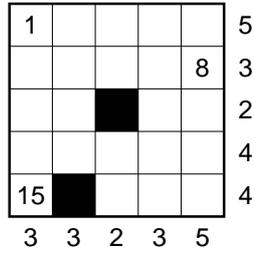
Solution :
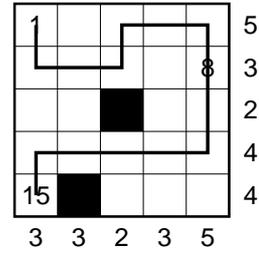
French WPC Qualifying Test 2012 – Instructions

## Part 4 – Assorted puzzles – 75 minutes – 400 points + time bonus

A competitor who submits correct answers to all puzzles before the end of the round will receive a bonus of 5 points for each remaining full minute.

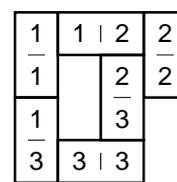### 1. Croatia Domino Castle   (20 points)

The castle depicted below has been built using the domino set shown below. When two dominoes touch by an edge, the domino halves that touch each other must carry the same symbol. The clues in the margin list all the symbols that appear in the corresponding row or column. Locate all the dominoes.

Example :
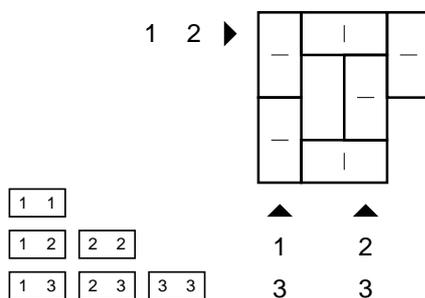
Solution :

---

2. All Alone Fences   (25 points)

Black out some of the numbers in the grid so that each row and each column contains only different digits. Blackened clues must not touch horizontally or vertically, and the remaining squares must all be connected to each other.

Then, draw a single closed loop by connecting neighboring points horizontally or vertically. Each numbered square indicates how many of its four edges are used by the loop.

Example :
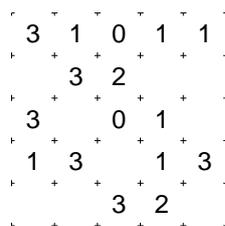
Solution :

---
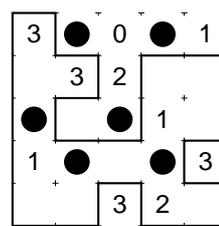
3. Plus-minus   (20+40 points)

Place the numbers from 1 to 9 (or 1 to 16) in the grid, one in each square. The values above or to the left of the grid (left of the vertical bars) indicate the largest sum of two values among those found in the corresponding row, column or diagonal. The values below or to the right of the grid (right of the vertical bars) indicate the largest difference between two values among those found in the corresponding row, column or diagonal.

Example : ⊕ 13 5 | 4

9			
				8
15			

11   4   ⊝

Solution : ⊕ 13 5 | 4

9	3	4	5
	1	6	9	8
15	2	8	7

11   4   ⊝

4. Magnets   (35 points)

The grid is made up of magnetic and non-magnetic plates. Each magnetic plate has two halves: one positive (+) and one negative (−). Halves with the same symbol can not be horizontally or vertically adjacent. The numbers outside the grid indicate how many magnetic halves of each kind can be found in that row or column. Some clues have been erased. Find the polarity of all magnets.

Example :

		1
		2 1
		1 2
		2

1 2 1 2 +
1 2 2 1 −

Solution :

+	-			1
	+	-	+	2 1
	-	+	-	1 2
-	+	-	+	2

1 2 1 2 +
1 2 2 1 −

5. Rolling Block Maze   (35 points)

A die carries on each of its faces one of the symbols ⋆, +, ○, so that opposite faces carry the same symbol (see figure). The die is initially on the upper-left-most square of the grid, with the face in contact with the grid carrying the symbol ⋆. It then rolls from square to square in the 4 directions, each time rotating 90 degrees about one of its edges until a new face is in contact with the grid. At each step, the face in contact with the grid must carry the same symbol as the square of the grid it occupies. Find the shortest path to the lower-right corner of the grid.
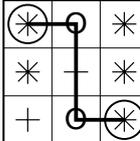
Example :

⊛	O	✳
✳	+	✳
+	O	⊛

Solution :

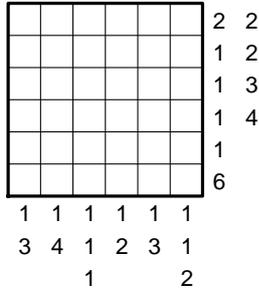| ⊛	O	✳
✳	+	✳
+	O	⊛

11
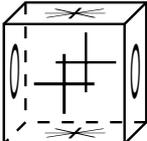
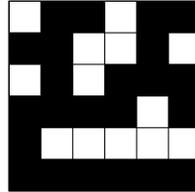## 6. Coral Finder   (40 points)

Blacken a connected set of squares (the coral) that does not touch itself, not even diagonally, and does not form any closed loops. The numbers outside the grid indicate the lengths of the consecutive parts of the coral in the given row or column. However, the numbers are given in increasing order, not in the order in which they actually appear in the grid. No 2x2 area may be covered by the coral.

Example :

```
                    2  2
                    1  2
                    1  3
                    1  4
                    1
                    6
      1  1  1  1  1  1
      3  4  1  2  3  1
               1     2
```

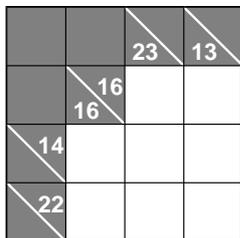**Solution :**

## 7. Equi-Kakuro   (35 points)

Enter a single digit from 1 to 9 into each empty square of the grid, so that the digits in each series of white squares add up to the number given in the gray-colored cell at the top or to the left. A number above a diagonal bar refers to the digits to be filled in to the right of that cell. A number under a diagonal refers to the digits to be filled in below that cell. The digit 0 is not used, and no digit is ever repeated within a group.

(In this puzzle, two clues given in a same cell are always equal.)

Example :

		23	13
16/16			
14			
22			

Solution :

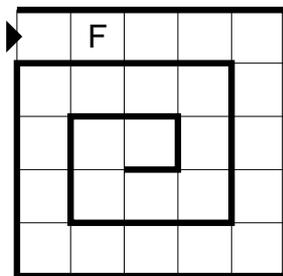|		23	13
16/16		9	7
14		7	6	1
22		9	8	5
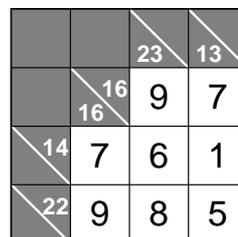
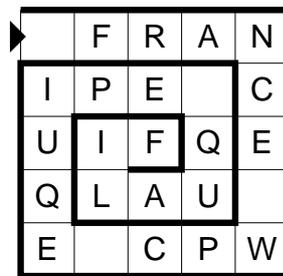## 8. Word Snail   (40+60 points)

Enter all the given words into the grid, so they can be read along the spiral. (The words are not listed in order). Consecutive words must be separated by at least one empty cell. No letter may be repeated within a single row or column. Some letters are already given.

Example :

```
  ┌──┬──┬──┬──┬──┐
  │  │ F│  │  │  │
  ├──┼──┼──┼──┼──┤
  │  │  │  │  │  │
  ├──┼──┼──┼──┼──┤
  │  │  │  │  │  │
  ├──┼──┼──┼──┼──┤
  │  │  │  │  │  │
  ├──┼──┼──┼──┼──┤
  │  │  │  │  │  │
  └──┴──┴──┴──┴──┘
```

QUALIF

WPC

EQUIPE

FRANCE

Solution :

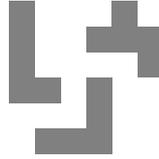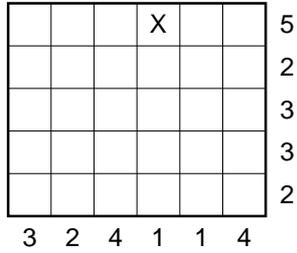|	F	R	A	N
I	P	E		C
U	I	F	Q	E
Q	L	A	U	
E		C	P	W

9. Pentominos (50 points)

Place the 12 pentominos into the grid, so that they do not touch each other, not even diagonally. The pentominos can be rotated but not reflected. The squares containing an X must remain empty. The clues outside the grid indicate how many cells in the corresponding row or column are occupied by the pentominos.

Example :

Solution :