

# Part II

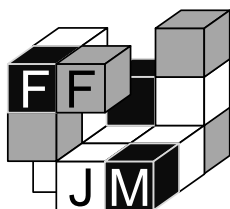
Name

## WPC French Qualification 2004

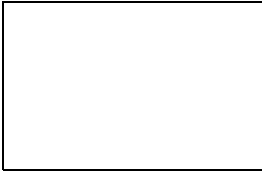
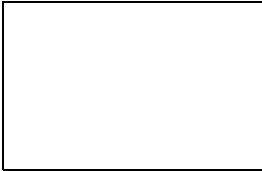
This round consists of seven puzzles. For  $i$  in  $\{2, 3, 4, 5, 6, 7\}$ , in order to solve puzzle  $\#(i)$ , you need to solve puzzle  $\#(i-1)$  first.

Once puzzle  $\#1$  is solved, report the values of the three clues in problem  $\#2$ , then solve it, report the number of mines of each row as indicated in problem  $\#3$ , then solve it, find the letters corresponding to the direction the ones are pointing to, report these letters in problem  $\#4$ , solve it, decode the contents of some squares to get numbers, report those numbers in problem  $\#5$ , report the clues in problem  $\#6$ , solve problem  $\#6$  and report its clues in problem  $\#7$  and solve it.

<b>Magic Square</b>	<b>10 points</b>
<b>Minesweeper</b>	<b>15 points</b>
<b>Eminent Domain</b>	<b>15 points</b>
<b>Easy as ABCD</b>	<b>20 points</b>
<b>Skyscrapers</b>	<b>20 points</b>
<b>Pointing Arrows</b>	<b>30 points</b>
<b>Number Crossword</b>	<b>40 points</b>



Part II



1. Magic Square

10 points

3			7					9
		4				8		
	6			3	<i>a</i>			
5					1		9	
				4				
	9		2					1
		<i>b</i>		6			5	
		2				7		
1					9		<i>c</i>	8

Fill digits 1-9 into the grid in such a way that every digit appears once in each row, each column, and each black-edged 3x3 region.

<i>a</i>	<i>b</i>	<i>c</i>

2. Minesweeper

15 points

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

Complete the diagram with the values of *a*, *b*, and *c* obtained in puzzle #1.

	3				1			1	⇒	$\alpha$
							1		⇒	$\beta$
		<i>c</i>		<i>a</i>					⇒	$\gamma$
	5					<i>b</i>		<i>c</i>	⇒	$\delta$
2			1			<i>b</i>		1	⇒	$\epsilon$
		1		1				0	⇒	$\zeta$
	1				4		<i>c</i>		⇒	$\eta$
2			1			3		1	⇒	$\theta$
		<i>b</i>	1					1	⇒	$\iota$
			<i>a</i>		1		<i>a</i>		⇒	$\kappa$
2				1				2	⇒	

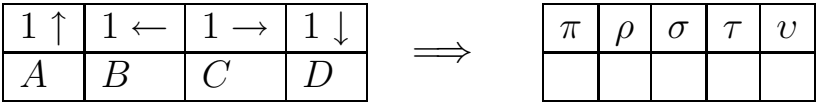
3. Eminent Domain

15 points

	4						$\kappa$				
		$\gamma$			1 $_{\rho}$			2		1	
	2		2			2			$\delta$		
				1			1 $_{\tau}$	2			
	1 $_{\nu}$			3						3	
5			1 $_{\pi}$		$\epsilon$				$\theta$		
		3				2		3			8
	$\iota$						$\alpha$			1 $_{\sigma}$	
			3	$\zeta$			2				
		2			1			2		3	
$\eta$		3				3			1		
				7						$\beta$	

One or more horizontal or vertical lines are drawn from each numbered square. Lines cannot cross black squares or other numbered squares. Each number indicates how many squares are connected by its lines; the numbered squares themselves are not counted. No lines overlap or intersect each other. There will remain exactly four empty squares.

Complete the diagram with the values of the greek letters obtained in puzzle #2.



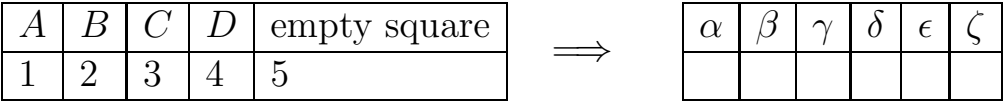
4. Easy as ABCD

20 points

Fill in the letters  $A$ ,  $B$ ,  $C$ , and  $D$  in the diagram. Each letter occurs once in each row and column. The letters outside the diagram indicate the first letter you come across from that direction.

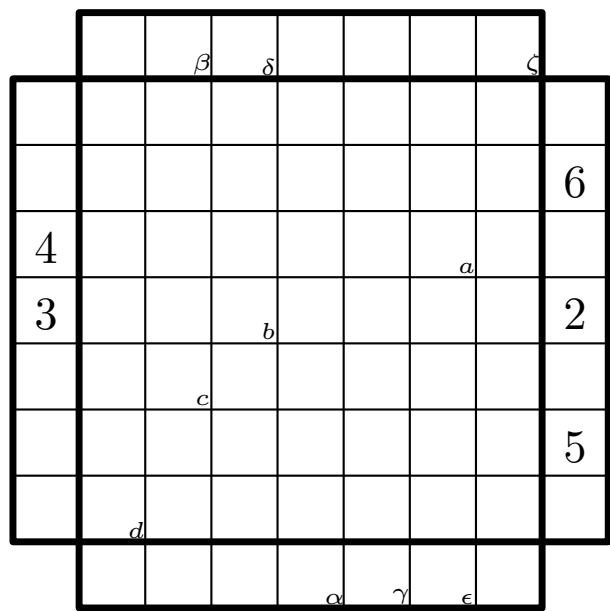
Complete the diagram with the values of the greek letters obtained in puzzle #3.

	A		A	D		B		B	$\tau$	
									$\rho$	
B					$\beta$					C
										C
D	$\zeta$									
	$\nu$			$\gamma$						A
						$\alpha$				
							$\delta$			B
A					$\epsilon$					C
									$\pi$	
	$\sigma$	B	D	A		D	C			



5. Skyscrapers

20 points



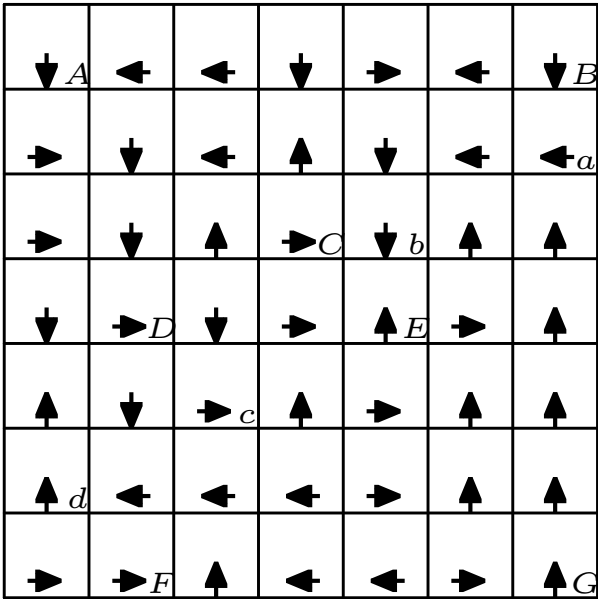
The grid symbolizes a group of skyscrapers. Each row and column contains skyscrapers of different heights (1-7). The numbers outside the grid indicate how many skyscrapers are visible from that direction (a building located behind a taller one in the same row is completely hidden).

a	b	c	d

6. Pointing Arrows

30 points

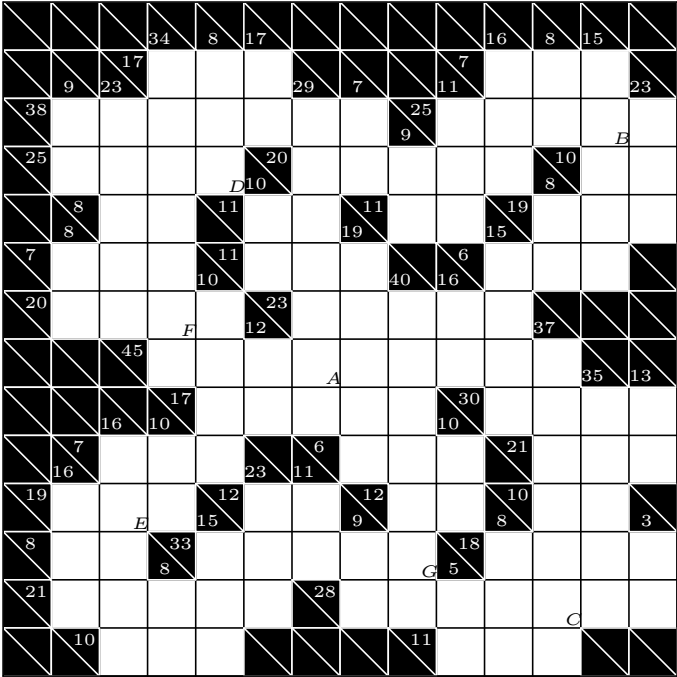
Write a number over each arrow in such a way that its value equals the number of different numbers the arrow is pointing to (an arrow points to all elements in its direction aligned with it).



A	B	C	D	E	F	G

7. Number Crossword

40 points



Enter digits in the grid (one per square) so that the digits in each series of white squares add up to the number given in the grey-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 under that cell. The digit 0 is not used, and no digit is ever repeated in a group.