

NAME:

POINTS:



4TH 24 HOURS PUZZLE CHAMPIONSHIP

24-25 MAY, 2003

HOTEL AMADEUS

BUDAPEST

PUZZLES BY

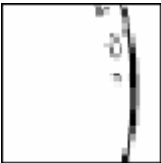
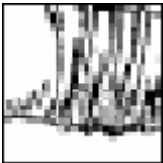
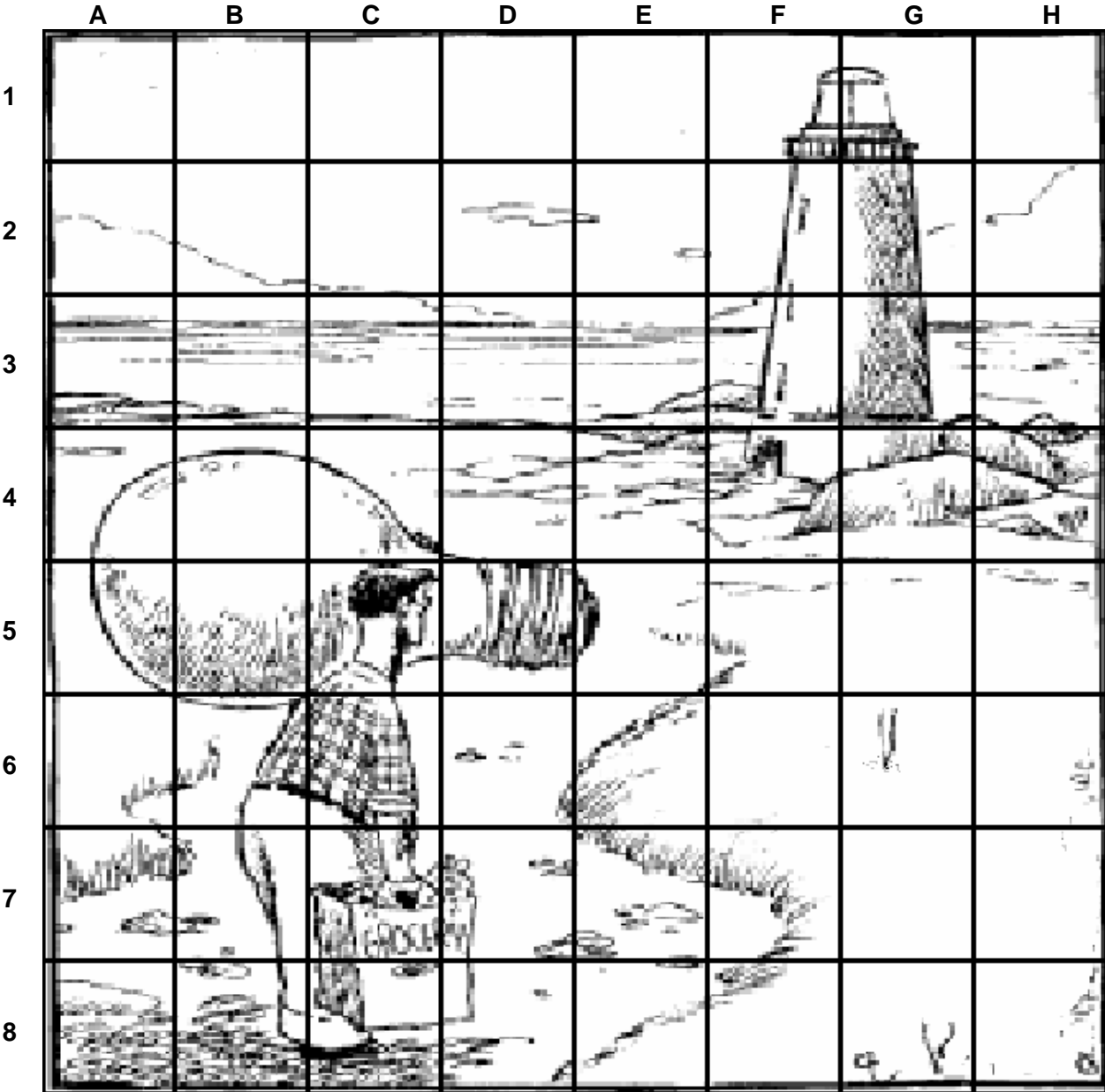
LÁSZLÓ, OSVALT

Hidden pieces	25 points
Balanced	50 points (20 + 30)
Magic squares	115 points (45 + 70)
Sherlock	65 points
Rectangles	45 points (10 + 35)
Queen's Park	65 points (5 + 15 + 45)
Mixed number-crossword	75 points
Magic square with equations	55 points (20 + 35)
Easy as ABC(D) diagonally	110 points (20 + 40 + 50)
ABC-pathfinder	55 points (15 + 40)
Three-way crossword	55 points
Sea serpent(ine)	70 points (15 + 25 + 30)
ABC connection	25 points (10 + 15)
Pentomino "64"	80 points (30 + 50)
Battleship with words	55 points (25 + 30)
Scrabble	55 points

Hidden pieces

Find the separate elements in the picture and write down their coordinates! Elements may be rotated, but not mirrored.

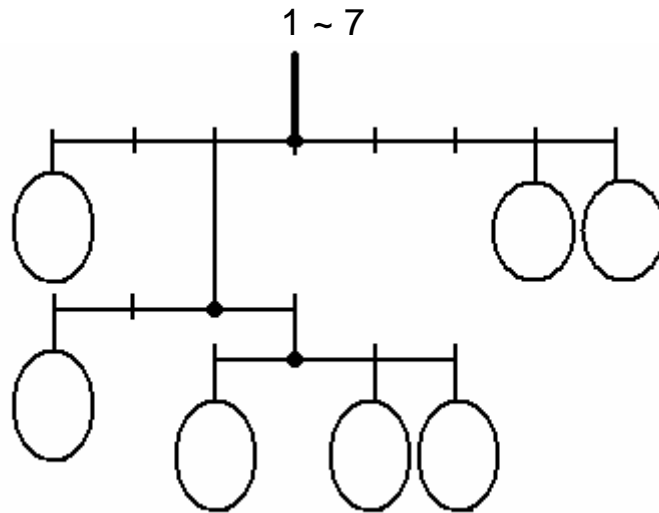
Points: 25 (5 / found element)



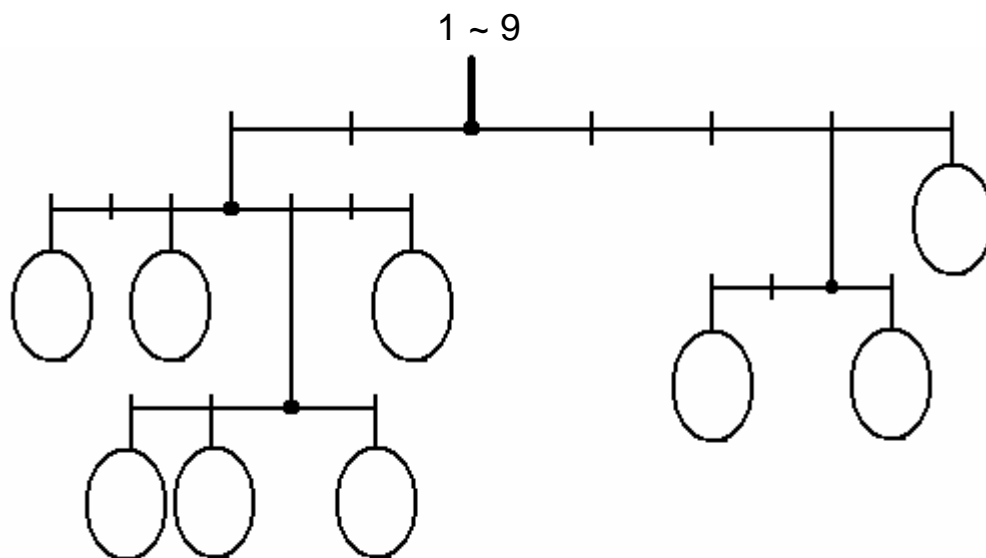
Balanced

Each drawing symbolizes a scale. Give value the weights marked by circles. You have to use all the whole numbers of the range given in the brackets. Each weight must be used exactly once. The ropes and bars are supposed to have no weight.

Points: 20 + 30



20 points

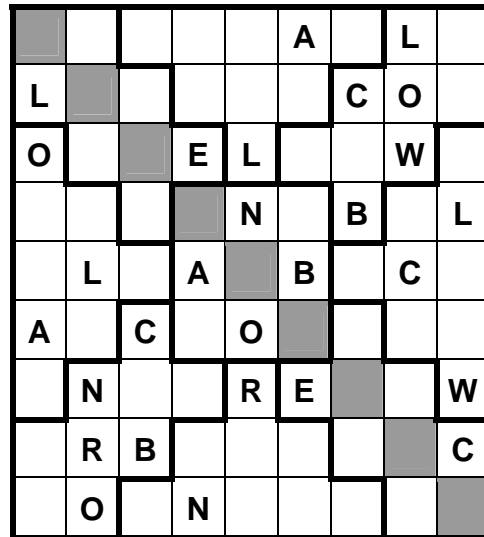


30 points

Magic squares

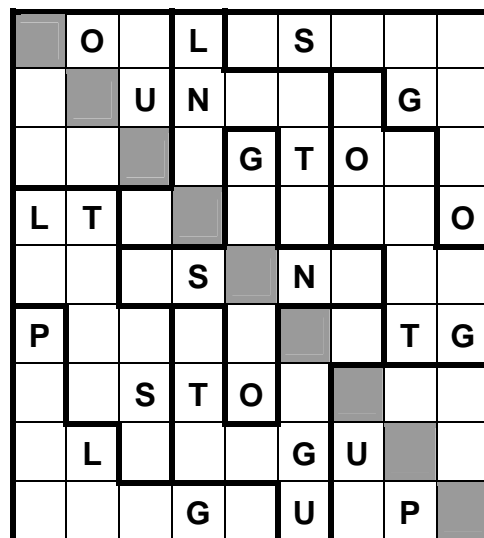
Write the given letters into the empty fields so that each letter occurs in all rows, columns and the amorphous sections bordered by the bold lines exactly once. If the puzzle was solved correctly, a geographical name appears in the marked diagonal.

Points: 45 + 70



45 points

A, B, C, E, L, N, O, R, W



70 points

A, G, L, N, O, P, S, T, U

Sherlock

The puzzle's name refers to a similar PC-game. Fill the grid with the listed marks (e.g. "A, B, C" in sample) so that each mark appears exactly once in the appropriate row. To place the marks correctly, the given rules must be satisfied. There 3 kinds of rules:

1. Same column	<table border="1"><tr><td>C</td></tr><tr><td>x</td></tr></table>	C	x	The marks must be in the same column.	
C					
x					
2. Near column	<table border="1"><tr><td>x</td><td><></td><td>III</td></tr></table>	x	<>	III	The marks must be in neighboring columns (order may be reversed).
x	<>	III			
3. Left - right	<table border="1"><tr><td>C</td><td>></td><td>y</td></tr></table>	C	>	y	The first mark must be on more left column than the second.
C	>	y			

Points: 65

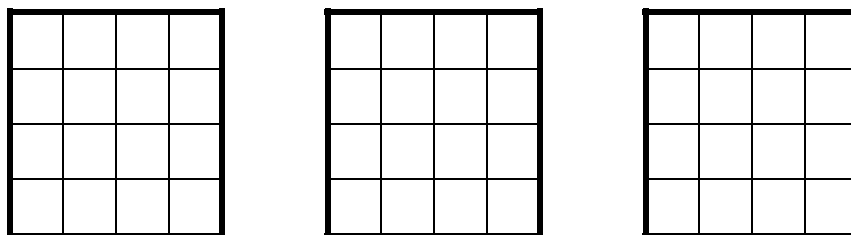
3, 4, 5, 6 →				
P, Q, R, S →				
α, β, γ, δ →				
♠, ♥, ♦, ♣ →				

4	6	γ
P	♥	♣

β > ♠
♣ > 3

♥ <> γ
♠ <> 5
β <> R
5 <> Q
P <> ♠
Q <> δ

A few diagrams are provided for thinking...



Rectangles

Divide the figure into rectangles. Each rectangle must contain exactly one number, and this number must show the area of the enclosing rectangle. The area of a single field is 1.

Points: 10 + 35

								6	
		6							9
						12			
			5						
		8					3	4	
				6					
	4					4			
6							9		
								8	
				10					

10 points

	8						6		
				9					4
							5		
		6							
6									6
			10			9			
								4	
	10						8		
					9				

35 points

Queen's Park

Some queens (chess pieces) are hiding in the figure; their exact number is given in each puzzle. A queen attacks all fields that are the same row, column or diagonal with her, except when there is another queen among her and the examined field. The numbers in the fields indicate the attacking queens' number. Mark the queens on the figure.

Points: 5 + 15 + 45

					3
	1				
2					
			5		

5 points

5 queens

2		3			
		4	3		
1		3			3
					1
1			2	0	

15 points

5 queens

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

45 points

11 queens

Mixed number-crossword

Enter digits in the grid - one per square - so that the digits in each series of white squares **add or multiply** up to the number in the accompanying grey-colored cell. In the grey cells, the numbers aligned to the right edge refer to the digits to be filled in to the right of that cell; the numbers aligned to the bottom edge refer 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.

Points: 75

	15		27			9	18	1296	24
	18			24					4
24				5184					
				1008					
11					23	1120	6		
			29						
7			35					17	2520
45									
		30					12		
	20	10					96		
40					378				
				9	14				
34							64		
	30					16			

75 points

Some hints:

$$378 = 14 \times 27$$

$$1008 = 16 \times 63$$

$$1120 = 32 \times 35$$

$$1296 = 16 \times 81$$

$$2520 = 35 \times 72$$

$$5184 = 64 \times 81$$

Magic squares with equations

Fill the figures with digits 1–5 (1–6 at the second) so that each digit occur exactly once in each row and column, and the given equations become true.

Points: 20 + 35

	A	B	C	D	E
1					
2					
3					
4					
5					

20 points

$$C1 + D1 = 3$$

$$C4 + C5 = 6$$

$$A2 + A3 + A4 = 10$$

$$E4 + E5 = 8$$

$$B3 + C3 + D3 = 8$$

$$D2 + D3 + D4 = 10$$

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						

35 points

$$B4 + C4 + D4 = 13$$

$$F2 + F3 + F4 = 13$$

$$A1 + A2 = 5$$

$$A6 + B6 = 10$$

$$F4 + F5 = 3$$

$$B2 + C2 = 10$$

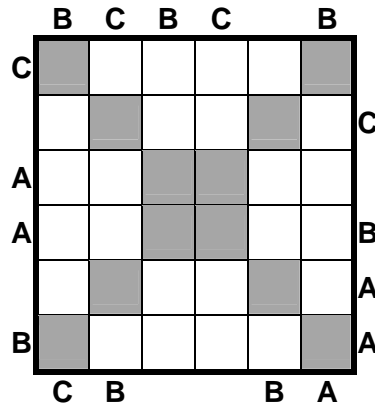
$$D2 + D3 = 8$$

Easy as ABC(D) diagonally

Fill the letters A, B, C in the first diagram; letters A, B, C, D in the others. Each letter occurs once in each of the rows, columns **and the longest** (main) **diagonals**. The letters outside the diagram indicate the letters you come across first from that direction.

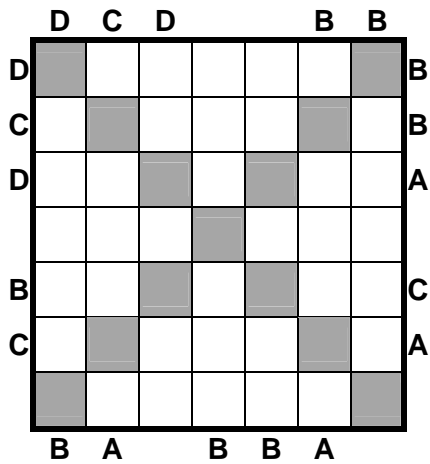
Points: 20 + 40 + 50

(Use letters A, B and C in this figure.)

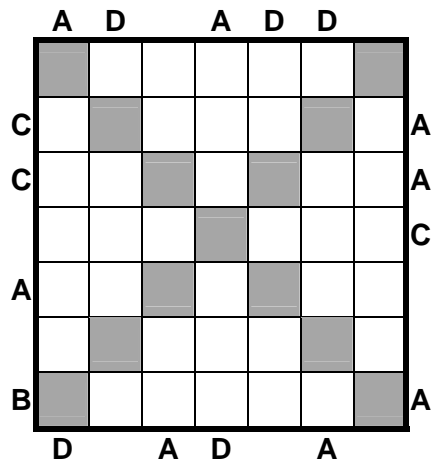


20 points

(Use letters A, B, C and D in these figures.)



40 points



50 points

ABC-pathfinder

Draw a continuous line into the diagram, according to the following rules:

- The line starts and ends at the fields marked with "o";
- The line can pass horizontally, vertically or diagonally and must touch all fields exactly once;
- The line cannot overlap or intersect itself.
- On fields marked "A", the line must turn by right angle;
- On fields marked "B", the line must turn from straight (horizontal / vertical) direction to diagonal or vice versa;
- On fields marked "C", the line must pass through without changing direction.

Points: 15 + 40

A		C			o
	A		C	A	
C				C	B
B	C				C
	A	C		A	
o			C		A

15 points

	o	A	C	A	B	o
A	C		A		C	
		C	A			
C	A	A	A	A	A	C
			A	C		
	C		A		C	B
	A	A	C	A		B

40 points

Three-way crossword

Fill the crossword with the given words and the 15, asymmetrically placed black squares. All letters and the black square are divided into 3 groups, marked by "X", "O" and "●". Each field must be filled with a letter (or black square) from the field's group. The given words are group by their length.

Points: 55

X	O	X	X	O	●	O	●	X	O	X
O	●	O	O	X	●	X	O	●	X	O
X	O	X	X	●	X	●	●	X	O	X
O	●	●	●	X	O	X	O	●	O	O
X	X	●	O	●	X	O	●	O	●	O
●	X	●	●	X	O	●	X	O	X	●
X	O	●	X	O	●	●	O	X	●	O
O	●	O	●	●	O	O	●	O	●	X
●	O	X	O	O	X	●	X	O	O	X
●	X	O	●	X	●	●	●	X	X	X
X	X	O	O	●	●	O	X	X	●	X

11: ACKNOWLEDGE, UNDERGROUND.

7: DEMI SEC, ENCLOSE, OSTRICH, SHELLLED.

6: CLICHE, CLOTHE, CREATE, CRISIS, ISELLE, NELLIE, WIENER.

5: AMIGA, ASTER, COLIN, DRESS, EMAIL, ERITH, GENIE, NORMA, SPADE, TWEED, UNCLE.

4: DREW, ELLA, LENK, MILO, OLEG, RATE, TALE.

3: EWE, LEO, LOP, NOR, UTA.

2: AM, CL, ED, EX, LS, RA, SH, TL.

55 points

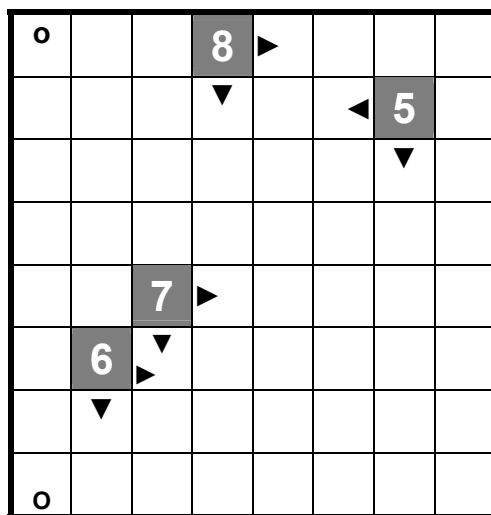
The groups:

X	A	B	C	D	E	F	J	P	U
O	H	K	L	M	N	Q	R	S	V
●	G	I	O	T	W	X	Y	Z	■

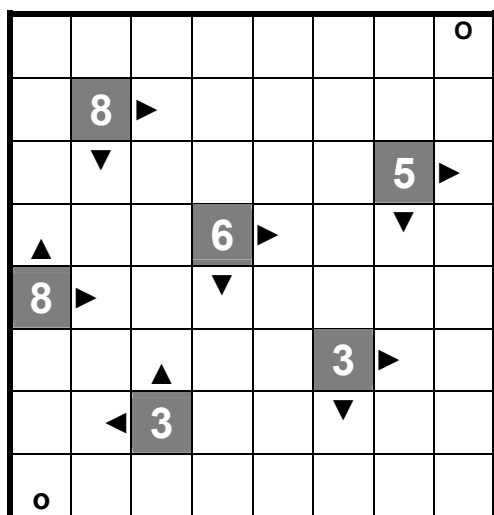
Sea serpent(ine)

Each diagram symbolizes a sea, and a serpent hiding in it. Only its head and tail can be seen, at the fields marked by "o". The serpent's body can pass through the fields only horizontally or vertically, and the monster **can touch its own body, though only diagonally**. The serpent never passes through the fields containing numbers. These fields function as a half-sided lighthouse: they can **show the number of the fields where the serpent is present**, but **only towards the directions marked by arrows**. Find the serpent and draw it into the diagram.

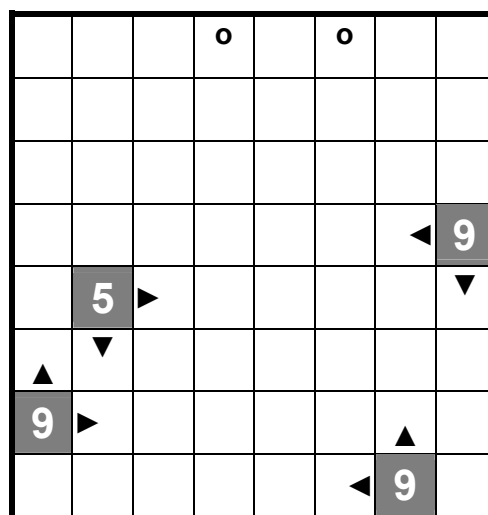
Points: 15 + 25 + 30



15 points



25 points



30 points

ABC-connection

Connect the same symbols with an unbroken line. The lines don't intersect or overlap. The lines can pass only through the middle lines of the squares.

Points: 10 + 15

								A	F	
		C		D			E	B		
A							C			
	B									
				E	F					
	D									

10 points

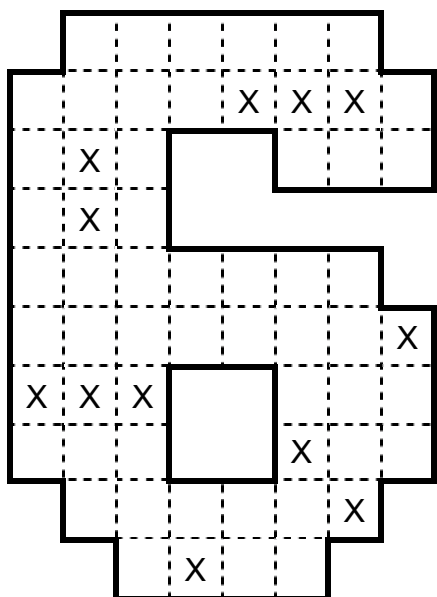
						G				F
					B			A		
		C					E			
	E				B					
				G						
								C	D	
	F	D								
A										

15 points

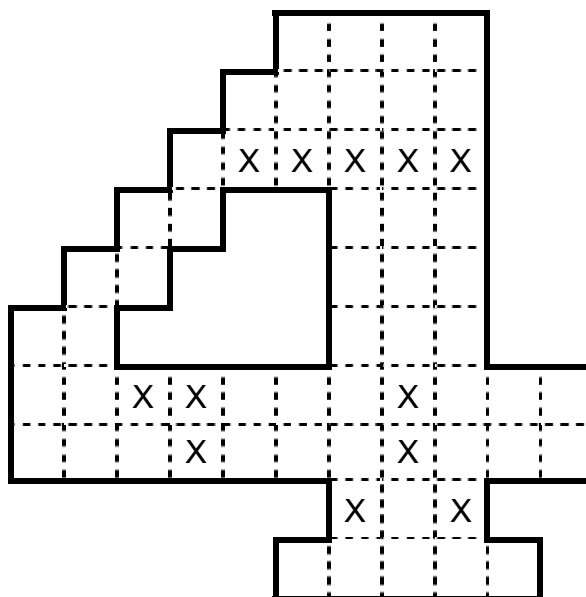
Pentomino "64"

Each figure can be built up from the given 5-square forms. Each form can be used exactly once, and each form contains exactly one square marked by "X". The forms may be rotated, **but only the pieces marked by "!" can be mirrored**. Find the exact place of all given 5-square forms in the figure.

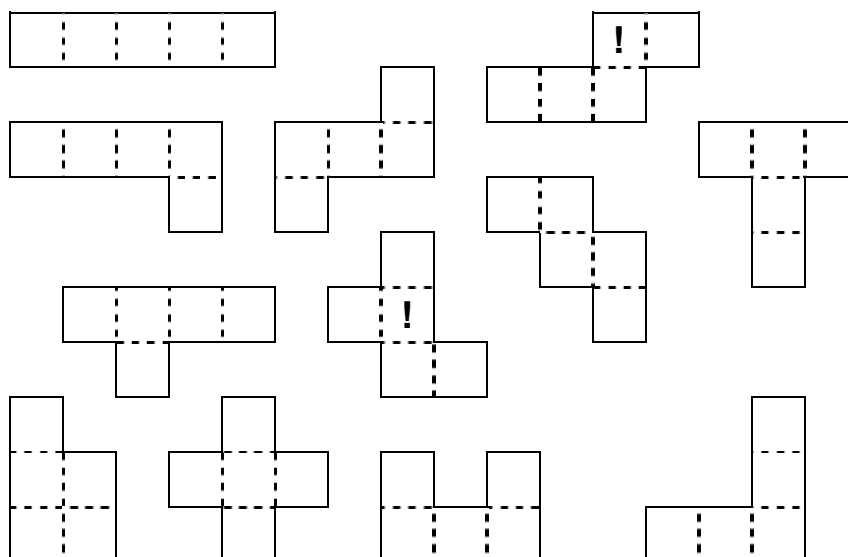
Points: 30 + 50



30 points



50 points



Many thanks to Mr. Péter Szőke for the solution-checking software.

Battleship with words

Place the listed words into the grid in a way that the squares used by the words must not be neighboring – not even diagonally – with squares used by another names. The numbers outside the grid show how many letters must be in the certain row or column. There are some letters outside the grid, too. These letters must be placed minimum once in that row or column.

Points: 25 + 30

D E N D D

B										
										1
										1
S										
B										5
S										5
	6		2	3						

BERLIN
BERN
LONDON
MADRID
OSLO
PARIS

25 points

D K K K L

L										
O										
K										
L										
L										
A										
K										
K										

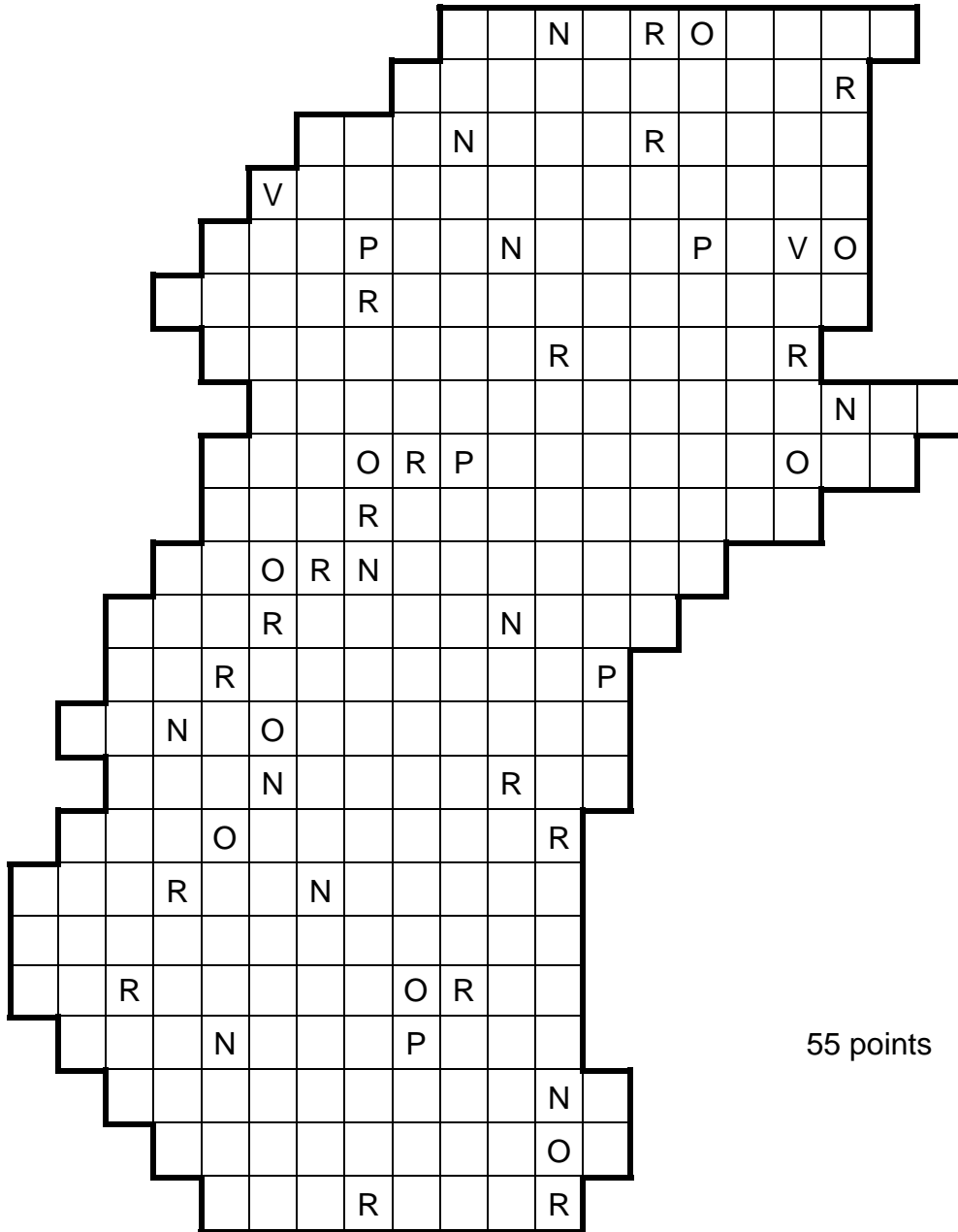
DAKAR
KAIRO
LAGOS
LOMÉ
LUSAKA
RABAT

30 points

Scrabble

Place all the listed constellation names in the grid in a way that each word should have at least **two** common letters with at least **two** another words. The letters in the grid (given in advance) should be used at least by one word. Any (even two-letters) words must not be in the grid, which is not on the list. All letters N, O, P, R and V are given in advance.

Points: 55



55 points

ANDROMEDA
AQUARIUS
ARIES
CAPRICORNUS
CASSIOPEIA
CENTAURUS
CIRCINUS
CANCER

CRATER
CYGNUS
DELPHINUS
DRACO
FORNAX
GEMINI
INDUS
LEO

LIBRA
LUPUS
MUSCA
OCTANS
ORION
PAVO
PISCES
PYXIS

SAGITTARIUS
SCORPIUS
TAURUS
URSA MAIOR
URSA MINOR
VELA
VIRGO