

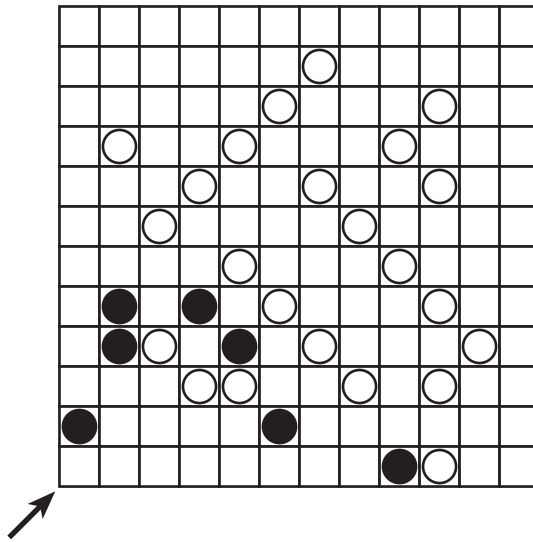
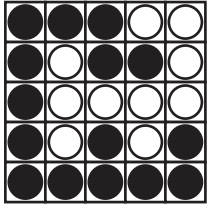
PUZZLE 03

75 points

Yin Yang

Draw either a white or a black circle in every cell of the grid. All white circles must be connected to each other side by side, forming one contiguous group; and similarly black circles must be connected to each other too. There can not be a 2x2 square anywhere on the grid that contains four circles of the same color.

Example:



Answer key: Enter the contents of the SW-NE diagonal of the grid in order, using W for white circles and B for black ones. For the example, the answer key would be: BWBWB

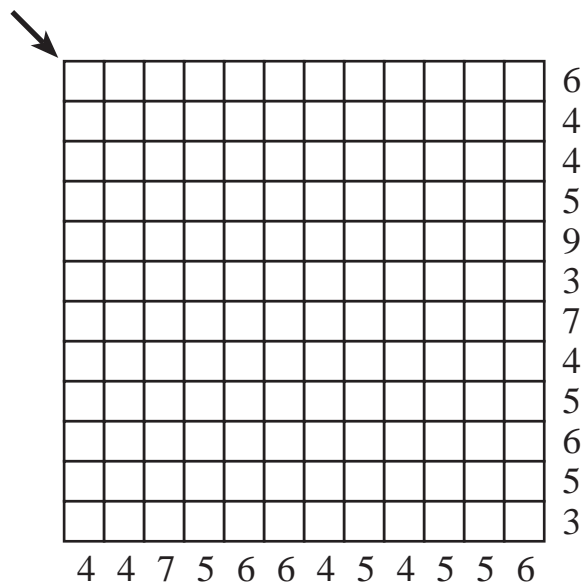
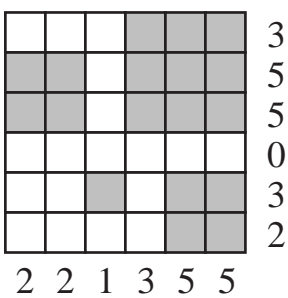
PUZZLE 04

65 points

Square Box

Paint some cells on the grid so as to form squares of various sizes. Squares can not touch each other, not even diagonally. Numbers on the sides tell the number of painted cells on the representing row or column.

Example:



Answer key: Enter the contents of the NW-SE diagonal of the grid in order, using P for painted cells and B for blank cells. For the example, the answer key would be: BPBBPP

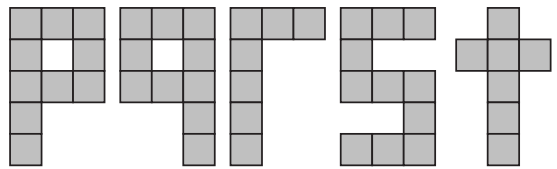
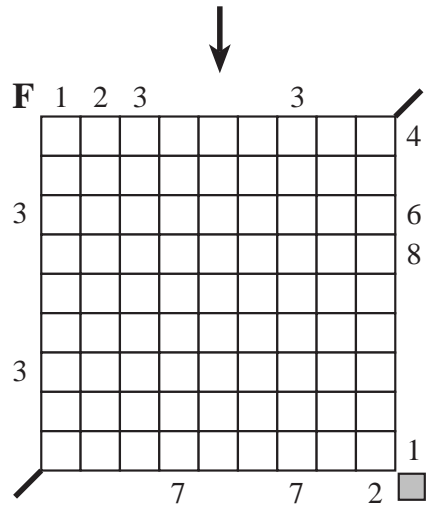
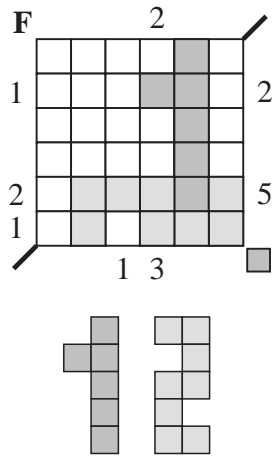
PUZZLE 05

95 points

PQRST Letters

Locate all of the p, q, r, s, t letter figures into the grid once each without overlapping each other. You may rotate the figures, but can not reflect them. Numbers at the top and left tell the number of figures seen in that row or column; whereas numbers at the bottom and right tell the number of occupied cells in that row or column.

Example with 1, 2:



Answer key: Enter the contents of the 5th column of the grid in order from top to bottom, using the representing letter for each figure and X for blank cells. For the example, the answer key would be: 111112

PUZZLE 06

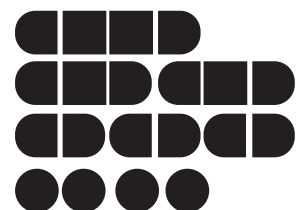
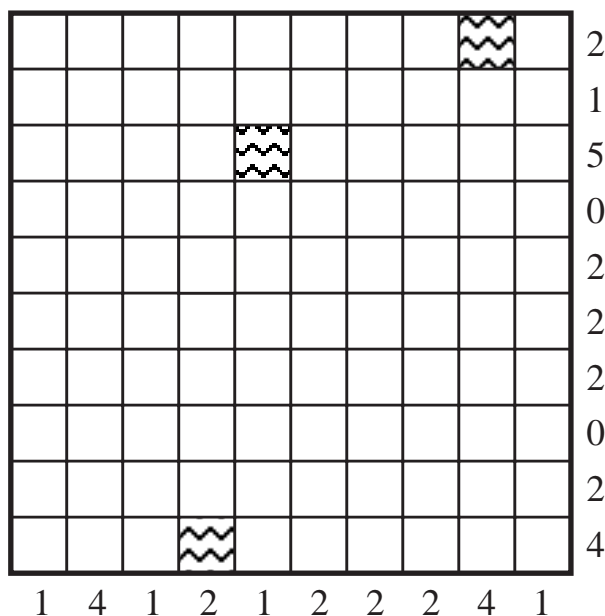
(10 points penalty for a wrong answer)

80 points

Nonunique Battleships

Battleships puzzle: Locate the 10-ship fleet into the grid so that they don't touch each other, not even diagonally. Numbers on the sides tell the number of ship segments seen in that row or column. There are no ship segments on squares with a water mark.

The Battleships puzzle below doesn't have a unique (only one) solution. How many are there?



Answer key: Enter the number of solutions.

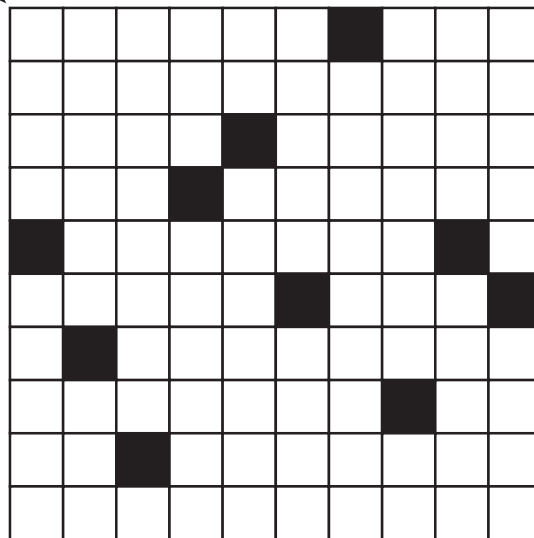
Jumping Crossword

Locate all of the given words on the grid, either across or down, as in a regular crossword puzzle. There may be some number of 1-unit spaces inside the words; at the beginning, in the middle and/or at the end. Word lengths are given with the list.

Example:

	A		B	C	B
B		A		C	
	C				C
	B	C		B	C
A		B	A		
C	A		B		C

- 6. ACBA, BAC, BCCC, CAB
- 5. ACB, BCBC
- 4. ABA, CCB
- 3. AB, B, BCB, C
- 2. A, B, C, AC



- 10. CABDABA, CDABBD
- 9. CDAC
- 8. CDCABA, DBACB
- 7. AADC, BAAD, BACDAD, BDCB, CACBA
- 6. ADCB, BCDA, BDCA, CAB
- 5. ABD, ACCA, BBD, CABC, CBAC, CDB
- 4. ACB, ADA, BA, BAD, BCA
- 3. AB, BA, CA, DA, DB
- 2. A, BB, BC, C

Answer key: Enter the contents of the NW-SE diagonal of the grid in order, using representing letters on the occupied cells and X for every other cell. For the example, the answer key would be: XXXXXC

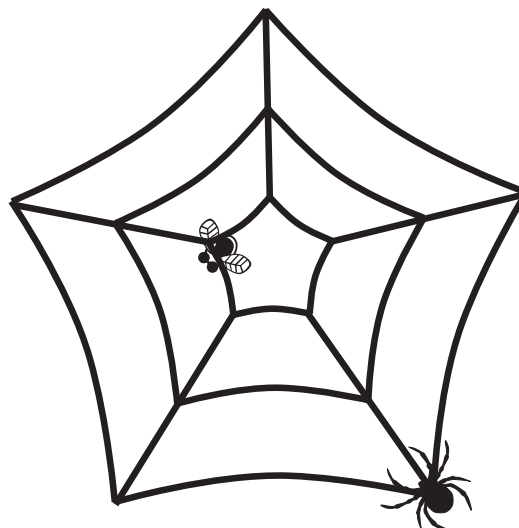
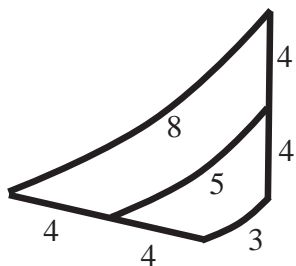
PUZZLE 08 (5+10 points penalty for wrong answers) 10+75 points

Spider Net

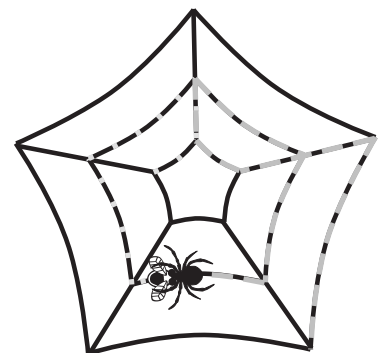
The spider has caught a fly. But first, it has to get to it through the net. The fly is on the center of the net and the spider is on the outer edge as shown. Spider is twice as fast as the fly. The fly moves 1 unit per second; and the spider moves 2 units per second; they never stop. Both insects have no logic; they just move randomly. Neither one retraces its own path; but can cross it. It's known that the spider will definitely get to the fly; this may even happen in the middle of a net segment.

- A) What is the shortest time necessary for this to happen?
- B) What is the longest possible time?

Unit lengths:



Example:



$55/3=18,33..$ seconds (18,3)

Answer key: For each question, enter the time in seconds. Round the results to the first decimal digit (X,X). The answer key will look like: A)3,6 B)22,0

Operation Mix

Locate all whole numbers from 1 to 16 into the mathematical operations box and find each individual result. Operations are done from left to right or from top to bottom. Maximize the ratio of “lowest result”/“highest result”. This ratio will be multiplied by 200 and added to 50 to make your score. Scores will be rounded to the nearest whole number. No negative scores.

Example:

$$\begin{array}{r} \boxed{2} \times \boxed{9} - \boxed{8} = 10 \\ + \quad - \quad / \\ \boxed{6} + \boxed{7} / \boxed{4} = 3,25 \\ \times \quad \times \quad + \\ \boxed{3} - \boxed{1} \times \boxed{5} = 10 \\ = \quad = \quad = \\ 24 \quad 2 \quad 7 \end{array}$$

Lowest: 2
 Highest: 24
 Ratio: 2/24=0,083
 Score: 50+(200x0,083)=67

$$\begin{array}{r} \square \times \square / \square - \square = \\ - \quad + \quad \times \quad / \\ \square - \square + \square \times \square = \\ \times \quad / \quad - \quad + \\ \square + \square - \square / \square = \\ + \quad \times \quad / \quad - \\ \square / \square \times \square + \square = \\ = \quad = \quad = \quad = \end{array}$$

Answer key: Enter your score first. Then enter the numbers on the grid row by row, working downwards. For the example, the answer key would be: 67: 2,9,8,6,7,4,3,1,5

Minimum Maximum

Locate letters into the 6x6 grid so as to read the words “MINIMUM” and “MAXIMUM” as many times as possible. Each word must be spelled out going from letter to consecutive letter horizontally, vertically or diagonally. A letter can be used more than once within a word.

Your total is: min+max-100x(the ratio of “highest read word’s count”/ “lowest read word’s count”).

Best total gets 200 points. 75% of the best total gets 0 points. Those in between get points proportionately (Linear distribution). No negative scores.

Example:

M	I	M
N	U	A
M	I	X

MINIMUM: 27 times
 MAXIMUM: 3 times
 Highest/lowest: 27/3=9
 Total: 27+3-100x9=-870

Answer key: Enter your total first. Then write the contents of the grid row by row, working downwards. Use B for blank squares. The answer key for the example would be: -870: MIM,NUA,MIX

Check the errata column on the main page in case of any mistakes or misinformation.
<http://www.otuzoyun.com/pqrst>