PQRST 02 PUZZLE COMPETITION

PUZZLE 1 25 points

Do They Match?

Each digit in the wrong equation below is made of matches. Take away two connected matches, that are perpendicular to each other, from any one of the digits. Then locate these two matches into any one of the digits, keeping them connected perpendicularly, so that the final equation becomes true. You may rotate the connected matches, and they may overlap other matches. In the final equation, all matches must be inside the borders, and look exactly how they are now.

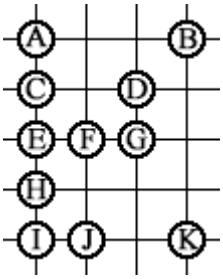
Answer key: Enter the value of the final equation. For example, the value of the left side of the equation above is 143, and the right's is 180.

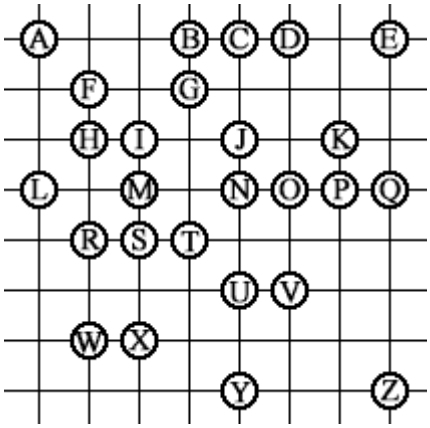
PUZZLE 2 55 points

Alphabet Hiroimono

Hiroimono is a traditional Japanese game. Starting with one of them, you have to pick up all of the stones with respect to these rules: You can only go along the lines either horizontally or vertically and you can only change the direction when you pick up a stone. You can not return, and you must pick up the stones which you come across (You can not pass stones). In the puzzle below, start with the stone 'S' and end with the stone 'E'.

Example:
Starting with 'J' and ending with 'E': JFGDCABKIHE



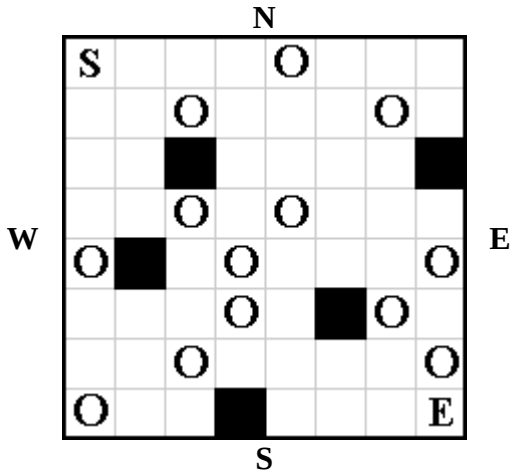


Answer key: Enter every second stone you picked up. For the example, answer key is: FDAKH

PUZZLE 3 65 points

2 or 3 Maze

Start with cell ‘S’ and end with cell ‘E’ moving either horizontally or vertically. Start moving 2 cells forward in each of your moves. When you step on a ‘O’ change the “number of cells to move forward” from 2 to 3, or vice versa, in your future moves. You can not step on or pass through the black cells.



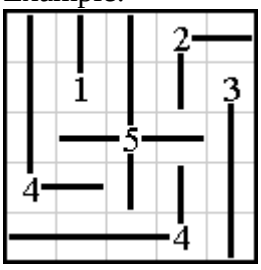
Answer key: Enter the number of moves in your solution first. Then describe each move with the direction by writing N for north, S for south, W for west and E for east. Your answer key will look something like: 25: SSSE...

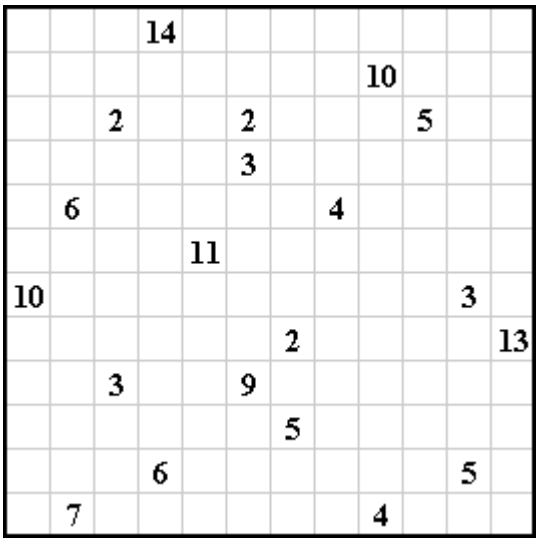
PUZZLE 4 65 points

Eminent Domain

Draw one or more horizontal or vertical lines from each numbered square. Lines can not cross 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, and each empty square is covered by exactly one line.

Example:





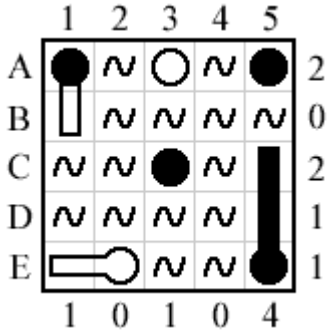
Answer key: Enter the numbers corresponding to the 12 cells in the southwest-northeast diagonal from lower-left to upper-right. For the example, answer key is: 44522.

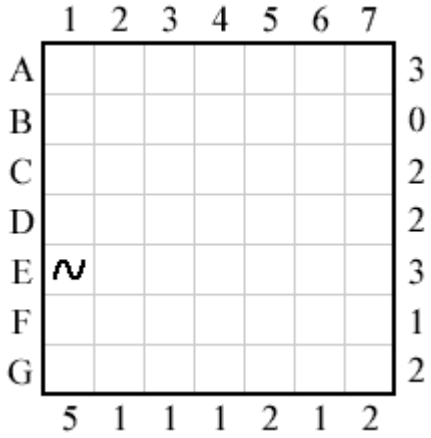
PUZZLE 5 75 points

Thermometer Battleships

In this variation of the Battleships puzzle, the ships are replaced with thermometers. Locate the ten thermometers in the grid so that they don't touch each other, not even diagonally. There are one 4-unit thermometer, two 3-unit thermometers, three 2-unit thermometers and four 1-unit thermometers. Either a thermometer is empty or some or all of its units are filled with mercury, but always starting from its head. Numbers on the right and bottom of the grid reveal the number of cells filled with mercury.

Smaller example:



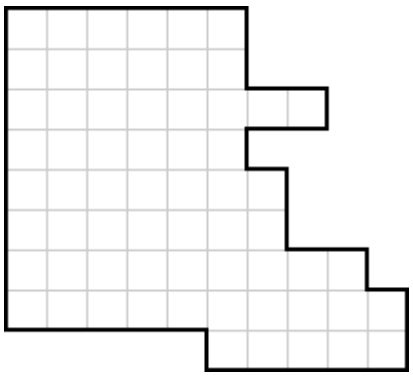


Answer key: Enter the locations of the four 1-unit thermometers in A1-G7 notation. Use lowercase letters for the empty ones and use UPPERCASE letters for the filled ones. For the example, the answer key is: a3, A5, C3.

PUZZLE 6 (15 points penalty for a wrong answer) 90 points

Cut a Square

Cut the grid into three pieces along the grid lines so that these three pieces can form an 8x8 square. You may rotate the pieces but you can not reflect them.



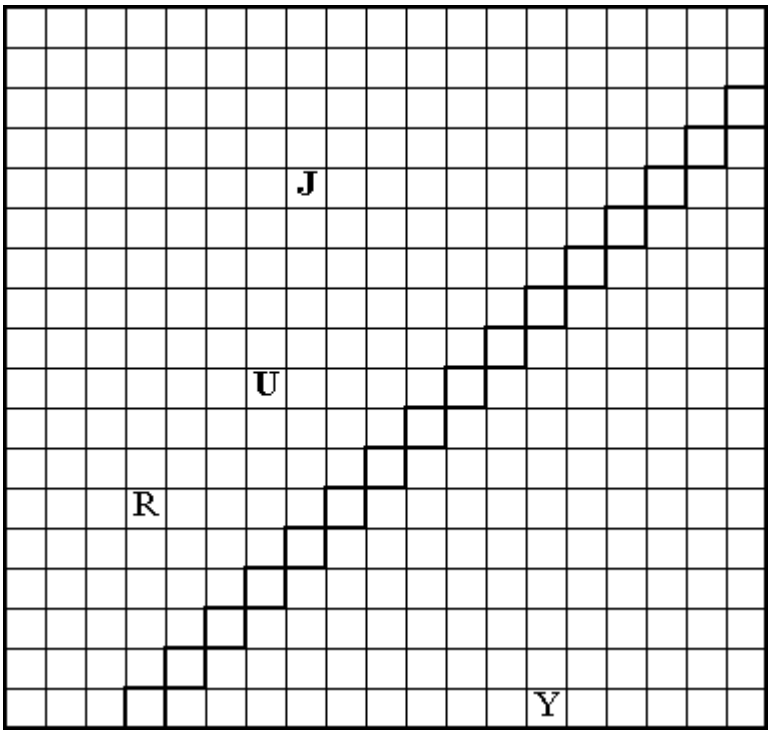
Answer key: Enter the total length (in linear units) of all the cuts you made.

PUZZLE 7 (15 points penalty for a wrong answer) 120 points

12 Angry Men

Place the names and surnames of all the 12 actors who played the jury members in the movie "12 Angry Men", into the grid, reading from left to right or up to down. Take each name and surname as one word without blanks. Each word must have at least one common letter with at least one other word, and all of the words must be connected. Each one of the letters in the grid (J, U, R, Y) must be used at least by one word. In the final position, there must not be any other words than the given ones, not even two-letter.

Martin Balsam
John Fiedler
Lee J. Cobb
E. G. Marshall
Jack Klugman
Ed Binns
Jack Warden
Henry Fonda
Joseph Sweeney
Ed Begley
George Voskovec
Robert Webber



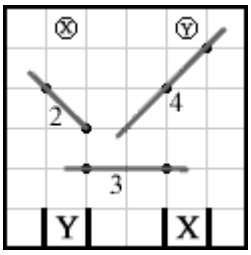
Answer key: Enter the letters in the 16 cells from lower-left to upper-right. Use X for blank cells.

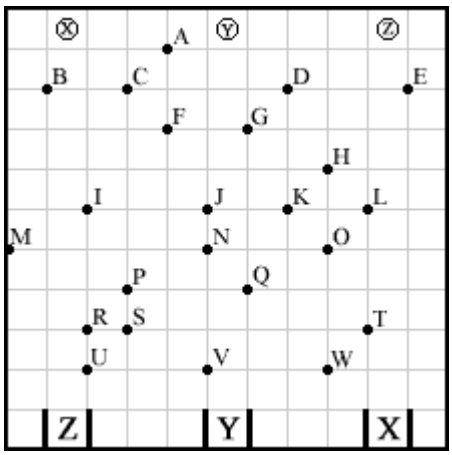
PUZZLE 8 (15 points penalty for a wrong answer) 100 points

Rolling Balls

In the 11x11 grid-like wall below, there are three balls (X, Y, Z) with diameter 0,5 unit, and three baskets. You have seven sticks with lengths 2, 3, 4, 5, 6, 7 and 8 units, and there are 23 connection points for these sticks. There must be exactly two points for a stick to be placed in the grid. Locate all of the sticks to the wall so that each ball rolls in the representing basket, when it is let go down seperately. A ball always moves vertical when it's not on a stick, but it moves to the earlier horizontal way when it lands on a horizontal stick. There must be enough space for a ball to go on rolling. The sticks must fully stay in the borders of the wall.

Example with sticks of lengths 2, 3 and 4:





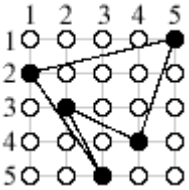
Answer key: Enter the positions of the sticks 5, 6, 7 and 8 by writing the two connection points for each. Your answer key will look something like: 5:??, 6:??, 7:??, 8:AI.

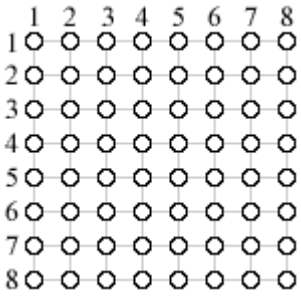
PUZZLE 9 (sol.s over 32 units) 40+(Length-32)x10 points

Loop Pool

There are 64 points in the grid below. Choose eight of them, one from each row and one from each column, then connect them to make the longest loop you can reach. Any two lines can not cross each other in a loop. Lengths of the lines will be calculated up to one decimal digit.

Example:
The loop below has length 15.3 units.



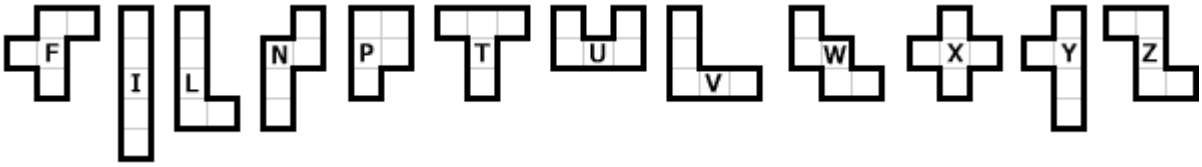


Answer key: Enter your loop's length first. Then enter the coordinates of the eight points in the order you connect them, starting with any one of them in (column, row) notation. For the example, the answer key is: 15.3: (1,2)-(5,1)-(4,4)-(2,3)-(3,5).

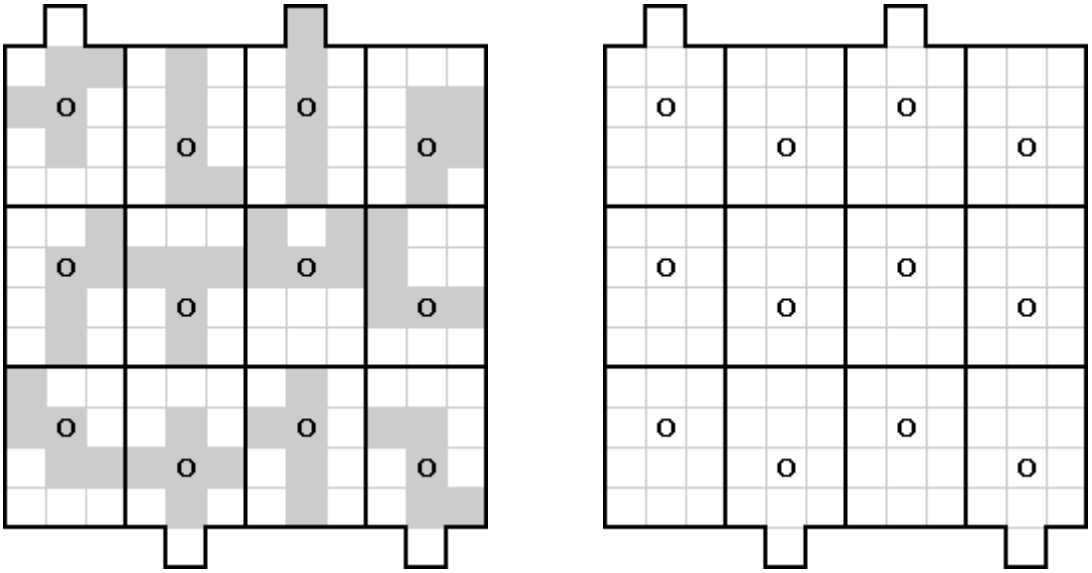
PUZZLE 10 (sol.s over 6 touching units) 10x(t. units) points

Pentomino Locations

Locate all of the 12 pentominoes into the grid so as to maximize the number of touching units. You can not rotate or reflect the pentominoes. There are connection points both on the grid and on each pentomino (represented by the letter of the pentomino). These points must always overlap, and pentominoes must stay in the borders of their connections.



Example: There are 5 touching units.



Answer key: Enter the number of touching units first. Then enter the representing letters of the pentominoes you located, in order. Top row from left to right, then second row from left to right, then bottom row from left to right. For the example, the answer key is:
5: FLIP, NTUV, WXYZ.

END
