## The "100" 10x10 Challenge

A double Latin Square puzzle designed by Kate Jones for the Martin Gardner Centennial - October 21, 2014

| 100 | 100 | 100 | 100 | 10 | 100 | 100 |  | 0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100 | 100 | 100 | 100 | 100 | 100 | 10 | 100 | 100 | (0) |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 00 |
| 100 | 100 | 100 | 100 | 100 | 100 | 10 | 100 | 100 | 00 |
| 100 | 100 | 100 | 100 | 10 | 100 | 10 | 100 | 100 |  |
| 100 | 100 | 100 | 11 | 10 | 100 | 100 | 100 | 100 |  |
| 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |  |
| 100 | 100 | 100 | 10 | 1 | 100 | 10 | 100 | 100 |  |
| 10 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 00 | 100 |
| 100 | 100 | 100 | 100 | 10 | 100 | 10 | 100 | 100 | 100 |

1. Cut out the $\mathbf{1 0 0}$ numbers above and place them on the $\mathbf{1 0 0}$ spaces of the grid. Arrange them to meet either or both of these goals:

- Each row-10 horizontal, 10 vertical- contains ten different fonts, in any order.
- All horizontal and vertical rows have all 10 colors (no duplicates in any row).
- Send me a simultaneous solution for both colors and fonts and win a prize!

2 Divide the numbers into four groups of 5 fonts, 5 colors, and place each set of 25 numbers into one of the four $5 \times 5$ quadrants of the grid so that:

- There are no two of the same color nor font in any row, horizontally, vertically and diagonally. (There are 10 orthogonal and 14 diagonal rows!)

3 After solving Challenge 2, take just one of the $5 \times 5$ quadrants with your solution. Remove any one number from your solution and set it aside. Now slide the numbers horizontally or vertically within the grid, one by one, into a neighboring empty space (no diagonal moves) until you've rearranged them so that all horizontal rows have a single color and all vertical columns are the same font. Leave one space in the right spot to replace the number you took out.

|  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## Kate Jones

