What is Sudoku?

Sudoku is a number-based logic puzzle. The objective is to fill a 9×9 grid with digits so that each column, each row, and each of the nine 3×3 sub-grids that compose the grid (also called "boxes", "blocks", "regions", or "sub-squares") contains all of the digits from 1 to 9. The puzzle setter provides a partially completed grid, which typically has a unique solution. Completed puzzles are always a type of Latin square with an additional constraint on the contents of individual regions.

An example Sudoku board: And the resulting solution:

5	3			7				
6			1	9	5			
	9	8					6	
8				6				3
4			8		3			1
7				2				6
	6					2	8	
			4	1	9			5
				8			7	9

5	3	4	6	7	8	9	1	2
6	7	2	1	9	5	3	4	8
1	9	8	3	4	2	5	6	7
8	5	9	7	6	1	4	2	3
4	2	6	8	5	3	7	9	1
7	1	3	9	2	4	8	5	6
9	6	1	5	3	7	2	8	4
2	8	7	4	1	9	6	3	5
3	4	5	2	8	6	1	7	9

Description and example images found on Wikipedia: http://en.wikipedia.org/wiki/Sudoku

What is Sudoku Plus?

Sudoku Plus is a game we just invented which follows all the same rules of Sudoku but has a grid of variable size. A Sudoku Plus board might be 4x4, 9x9, etc. All valid grids will have the following characteristics:

1. The grid will be square (same number of rows and columns). The length of a side should have a integer value square root. Valid side lengths would include: 4, 9,16, etc.
2. The grid can be divided into square regions of equal size where the size of a region is equal to the square root of a side of the entire grid. Each region will have the same number of cells as rows in the grid. On a 16x16 grid there would be 16 regions of size 4x4.
3. The numbers that can be used are in the range from 1 to N where N is the length of a side.

For example, a 4x4 grid might look as follows:

Programming Task

Create a Symfony based PHP project that accepts a possible Sudoku Plus solution and evaluates whether or not it is a valid solution. Input should be in the form of a CSV (comma-separated value) text file with columns separated by commas and rows separated by '\n' return characters. Example input files representing the examples shown in this document are attached.

This task is purposefully vague so that the solution can best represent what you believe to be the most important characteristics of a well-written program. Your solution would not be evaluated just for correctness but also on all aspects of a good coding practice.

You should provide all source code, build scripts and instructions for how to run your program.