To check all of the array elements within a particular sub-grid of the Sudoku grid, you need to know which elements of the two-dimensional array are contained within each sub-grid. If we think of the sub-grids as themselves being a 3 x 3 two-dimensional array, we have the following arrangement:

	0			1			2		
	[0][0]	[0][1]	[0][2]	[0][3]	[0][4]	[0][5]	[0][6]	[0][7]	[0][8]
0	[1][0]	[1][1]	[1][2]	[1][3]	[1][4]	[1][5]	[1][6]	[1][7]	[1][8]
	[2][0]	[2][1]	[2][2]	[2][3]	[2][4]	[2][5]	[2][6]	[2][7]	[2][8]
	[3][0]	[3][1]	[3][2]	[3][3]	[3][4]	[3][5]	[3][6]	[3][7]	[3][8]
1	[4][0]	[4][1]	[4][2]	[4][3]	[4][4]	[4][5]	[4][6]	[4][7]	[4][8]
	[5][0]	[5][1]	[5][2]	[5][3]	[5][4]	[5][5]	[5][6]	[5][7]	[5][8]
	[6][0]	[6][1]	[6][2]	[6][3]	[6][4]	[6][5]	[6][6]	[6][7]	[6][8]
2	[7][0]	[7][1]	[7][2]	[7][3]	[7][4]	[7][5]	[7][6]	[7][7]	[7][8]
	[8][0]	[8][1]	[8][2]	[8][3]	[8][4]	[8][5]	[8][6]	[8][7]	[8][8]

The relationship between a “sub-grid row” or “sub-grid column” subscript in the 3 x 3 array of sub-grids and the row and column subscripts of the elements of the 9 x 9 array that are contained within that sub-grid can be expressed as follows:

Starting 9 x 9 array row subscript = sub-grid row subscript * 3
Ending 9 x 9 array row subscript = sub-grid row subscript * 3 + 2

Starting 9 x 9 array column subscript = sub-grid column subscript * 3
Ending 9 x 9 array column subscript = sub-grid column subscript * 3 + 2

For example, the row subscripts for the array elements that make up sub-grid[1][2] (the last column of the second row of sub-grids) start at 3 (1 * 3) and end at 5 (1 * 3 + 2), while the column subscripts start at 6 (2 * 3) and end at 8 (2 * 3 + 2).