

Puzzle: Sudoku

Puzzles like this are great for developing mathematical logic skills, as well as training us to be resilient if a solution proves tricky to find...!

In the first of these 4 by 4 grids, the numbers 1, 2, 3 and 4 appear just once in each row, each column and each 2 by 2 block (bold outline).

Have a go at completing the missing numbers in the other two grids:

2	1	4	3
3	4	1	2
1	2	3	4
4	3	2	1

1	3	2	
2			3
4		3	1
3	1	4	

4			
2	1		
3			2
	2		

What are the missing shapes in these grids: (one each of , ,  and )

			
			
			
			

			
			
			
			

			
			
			
			

Same rules, but find the missing Roman numerals:

	II		IV
		I	II
II			
	III		

I	III	II	
		III	
		I	
II			III

IV			
III	II		
			III

In each row, column, and 2 by 2 block, the decimals add to 1:

		0.3	0.4
		0.2	
			0.3
0.1		0.4	0.2

0.1		2	
0.3	0.2		
0.2			0.4
	0.1	0.3	0.2

	0.2	0.1	
0.1	0.3		
	0.1	0.2	
			0.1

A similar puzzle can be completed for a 6 by 6 grid...

These are challenging...! Choose one to have a go at to get you started.

HINT

You could try inventing a code to help simplify the numbers in the boxes. In this example, you could write the Roman numerals as numbers, or maybe give each symbol a colour...

I = 1, II = 2, III = 3 etc. or

= 1, = 2, = 3 etc.

			V	II	III
	II			VI	IV
		II		IV	
	IV	V	III		II
			II		I
II	III				

Each 3 by 2 box, column and row contains numbers 0.2 to 0.6 (or fractions $\frac{2}{10}$ to $\frac{6}{10}$) and a . Each therefore adds to 2.

0.5				0.2	
0.3					
0.4		0.2	0.6	0.5	
			0.4		0.2
0.2					0.5
					0.4

	$\frac{5}{10}$		$\frac{2}{10}$	$\frac{4}{10}$	
		$\frac{4}{10}$			
	$\frac{4}{10}$	$\frac{3}{10}$			$\frac{2}{10}$
$\frac{6}{10}$		$\frac{2}{10}$			
	$\frac{2}{10}$			$\frac{6}{10}$	

Here's a fraction/ decimal challenge or two... As above, all add to 2.

			0.4		$\frac{3}{10}$
$\frac{3}{10}$	$\frac{1}{5}$				
	$\frac{1}{2}$		0.3	$\frac{2}{5}$	0.2
0.3		0.2		$\frac{1}{2}$	
		$\frac{2}{5}$	$\frac{1}{5}$		0.5
	$\frac{3}{10}$	$\frac{1}{2}$		$\frac{3}{5}$	0.4

			$\frac{3}{5}$		
	0.5	0.2	$\frac{3}{10}$		
$\frac{3}{10}$		$\frac{2}{5}$			
		0.6			
	0.4	$\frac{3}{10}$			

Finally, similar puzzles can be completed for a 9 by 9 grid!

Have a go at completing these...

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

Roman numerals...

VIII		VII	III	II	V		IV	IX
	III	I			VIII			
		V		IV				
I		IV		VIII	VII	IX	VI	
						IV	VII	
	II	III	IV		VI			
				VI	IX		VIII	IV
		IX		V	IV		II	VII
VI	IV	VIII		III	II		IX	I

Tenths (or their equivalents) $\frac{1}{10}$ to $\frac{9}{10}$.

			0.9	$\frac{3}{5}$		$\frac{3}{10}$		
$\frac{1}{2}$			$\frac{4}{5}$	0.2			0.1	$\frac{9}{10}$
					0.3			
			$\frac{2}{5}$				0.3	$\frac{7}{10}$
0.9		$\frac{14}{20}$	0.5	$\frac{1}{10}$		$\frac{8}{10}$	0.6	
0.4	$\frac{4}{5}$				$\frac{3}{5}$			
	0.1	$\frac{40}{100}$		0.9		$\frac{4}{20}$		
				$\frac{3}{6}$		0.4	$\frac{80}{100}$	
				0.4		$\frac{9}{10}$		0.6