



# Neurological Nasties

## LII

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### 1. Sudoku Puzzle: Intermediate Level

Choose a digit from 1 to 9 and place it in the Sudoku grid below.  
Every digit from 1 to 9 must appear:

- In each of the columns,
- in each of the rows,
- and in each of the nine boxes.

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

2.

$$0.\dot{9} = 1 \quad \text{Is this true? Does } 0.99999999\dots = 1 ?$$

3.

$$2 = 1 ? \quad \text{What is wrong with the following proof.}$$

$$a = b$$

Given

$$a^2 = ab$$

(Multiply both sides by  $a$ )

$$a^2 - b^2 = ab - b^2$$

(Subtract  $b^2$  from both sides)

$$(a - b)(a + b) = b(a - b)$$

(Factorise both sides)

$$a + b = b$$

(Cancel  $a - b$ )

$$2a = a$$

( $a = b$ , replace  $b$  with  $a$ )

$$\therefore 2 = 1$$

(Cancel  $a$ )