

Extreme sudoku 67: X-chain, 23 clues

Hardest step: X-chain · 23 clues · one solution

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

Extreme sudoku 67: the key move (X-chain)

The board just before the hardest step

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

X-chain on 8: $R6C5 = R6C7 - R5C8 = R7C8$. Each = joins the only two places for 8 in a row, column or box; each dash joins two cells that see each other. One of the two ends must hold 8, so 8 comes off the cells that see both ends: R7C5. R4C7 means row 4, column 7.

Violet digits are already solved. Tinted cells form the pattern; pink struck digits are the ones it removes.

Extreme sudoku 67: X-chain (solution)

Hardest step: X-chain · 23 clues · one solution

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

Hardest step. X-chain on 8: $R6C5 = R6C7 - R5C8 = R7C8$.

Solve path: 2 singles first; 33 squares still open at the hardest step.