Prime Sum and Difference Sudoku
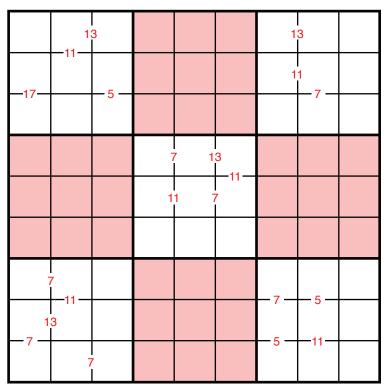
David Nacin

J ust as in ordinary sudoku, fill in the cells of these puzzles so that each row, column, and three-by-three square cage contains the numbers one through nine exactly once.
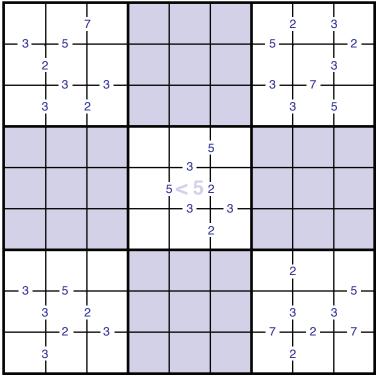
In the pink-and-white puzzle, shaded squares have no clues. In the non-shaded squares, the sum of the entries of adjacent cells is given if, and only if, that sum is a prime number.

In the blue-and-white puzzle, shaded squares have no clues. In the non-shaded squares, the difference of the entries of adjacent cells is given if, and only if, that difference in some order is a prime number. In addition, the center cell contains an entry less than five. ∎

David Nacin is a professor at William Paterson University. He enjoys designing and studying puzzles that involve groups and lie algebras, partition identities, the motion of chess pieces, and other mathematical structures.

Prime sum sudoku.

Prime difference sudoku.

Puzzle Solutions

Prime sum sudoku.

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

Prime difference sudoku.

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