

## Motorway – Full Solution Guide

This is a full solution guide to my puzzle *Motorway*, and so spoilers are ahead.

### Rules

- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box

### Solve Path

- NB: This puzzle is a one-stepper. It contains one advanced technique which I wished to showcase, and then the puzzle solves with standard sudoku. The one advanced technique is expected to be the first technique used
- I have marked up locations where a digit is restricted to two places, or three places in a line, within a given box
- This reveals almost nothing except claiming 8s in row 6 removing 8 from the rest of box 5
- I have also marked up all rows/columns/boxes which have at least 4 givens
- This reveals a 46 naked pair in box 1, and a 46 naked pair in row 1
- At this point, no other eliminations are available using standard sudoku techniques

<sup>9</sup> 359	46	2	7	135	39	8	135	46
357	1	357	<sup>2</sup> 8 2		<sup>2</sup> 8		9	467
8	46	<sup>9</sup> 3579						2
2349	28	3489	<sup>1</sup>	<sup>1</sup> 7 7				4689
6	7	348	245	9	234	25	2458	1
249	5	1	<sup>8</sup> 2468	246	<sup>8</sup> 2468	269	7	3
<sup>5</sup>	9	<sup>5</sup>	246	2467	1	<sup>3</sup>	<sup>3</sup>	678
<sup>1</sup> 127	3	6	<sup>9</sup> 29	8	<sup>9</sup> 279	4	12	5
<sup>1</sup>	28		3	2467	5	<sup>9</sup>		<sup>9</sup> 6789

- By colouring our 46 pairs we can see that R3C2 is the same digit as R1C9 (which I will colour yellow)
- Now ask where 2, 8 and yellow go in row 2. They have to go in R2C456
- Hence R2C456 contain 2, 8 and either 4 or 6, and so these can't contain a 3 or 5
- Gives a 2467 quad down column 5

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- As the 7 in the 2467 quad is in box 8, 7 is removed from R8C6, giving a 29 pair in row 8
- Alternatively, the 135 triple in column 5 removes 7 from R4C5 leaving R4C6 as the only place for 7 in box 5
- From here, the puzzle solves with only standard sudoku. In fact, the rest of the puzzle can be solved with just hidden and naked singles