

Mineswee-Pea-Er – Full Solution Guide

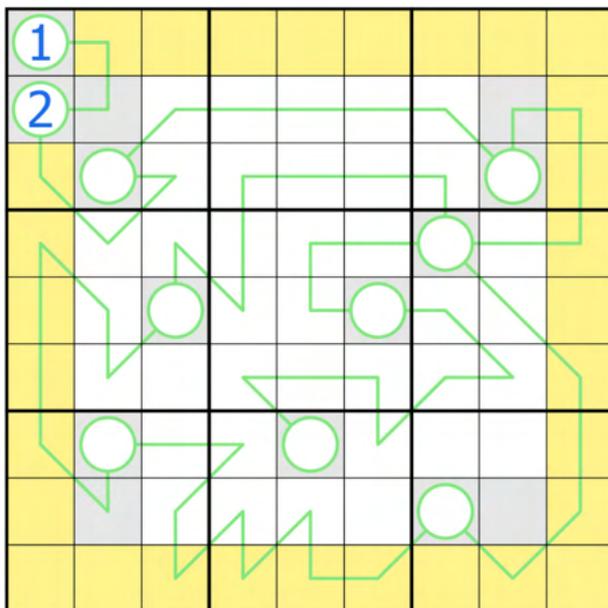
This is a full solution guide to my puzzle *Mineswee-Pea-Er*, and so spoilers are ahead.

Rules

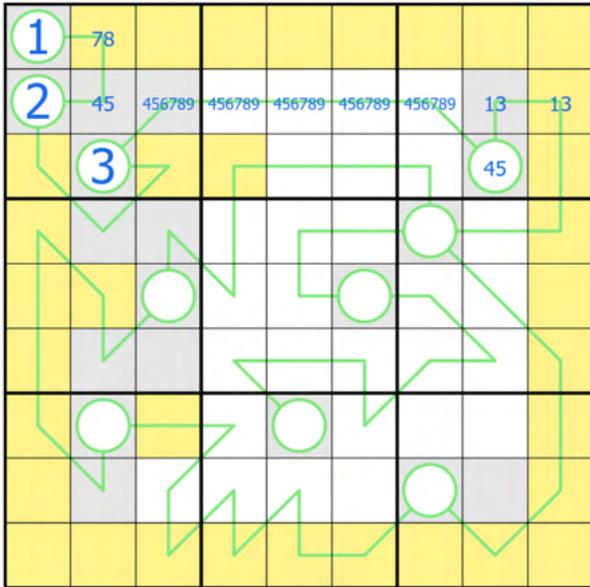
- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box
- **Yin Yang**: Shade the grid such that all shaded cells are orthogonally connected, all unshaded cells are orthogonally connected, and no 2x2 area is entirely shaded or unshaded
- **Minesweeper**: Circles are unshaded, and count the number of shaded cells in the (up to 8) neighbouring cells
- **Split Pill Arrows (Split Peas)**: Digits along a green line sum to a concatenation of the two digits in the connected circles. For example 3_436_1 would be a valid fill as 436 sums to 13 which can be made from the connected 3 and 1

Solve Path

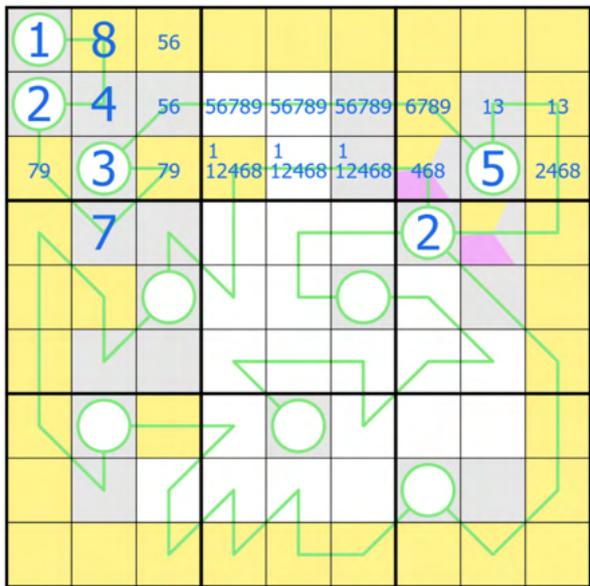
- A two cell split pea needs a 1 in the tens digit
- 1 must go in R1C1 otherwise the yin yang shading is broken in some way
- Places 2 in R2C1 to avoid a checkerboard
- This places two shaded cells on the border which allows the rest of the border to be shaded, and R2C2, R8C2, R8C8 are unshaded to avoid a 2x2



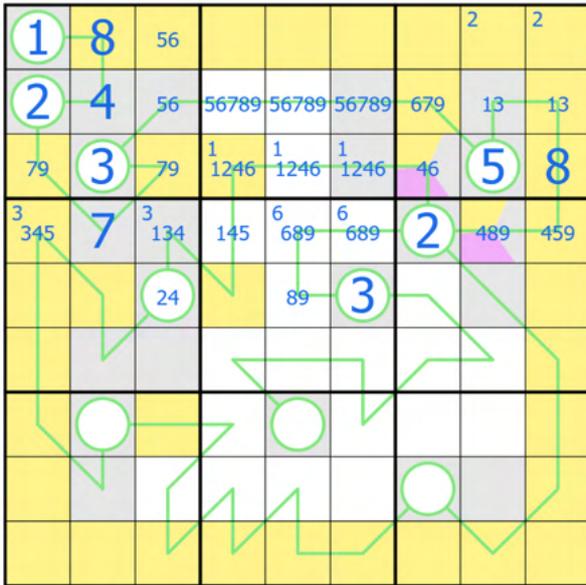
- R3C2 and R3C8 are a 5 cell split pea which is a maximum sum of 35. R3C8 already has 3 shaded neighbours, and the remaining neighbours can't be unshaded or we get unshaded 2x2s, hence R3C2 is a 3, and R3C8 is from 45
- R3C2 shading can only work one way, and all of R2C2 to R2C8 are from 456789



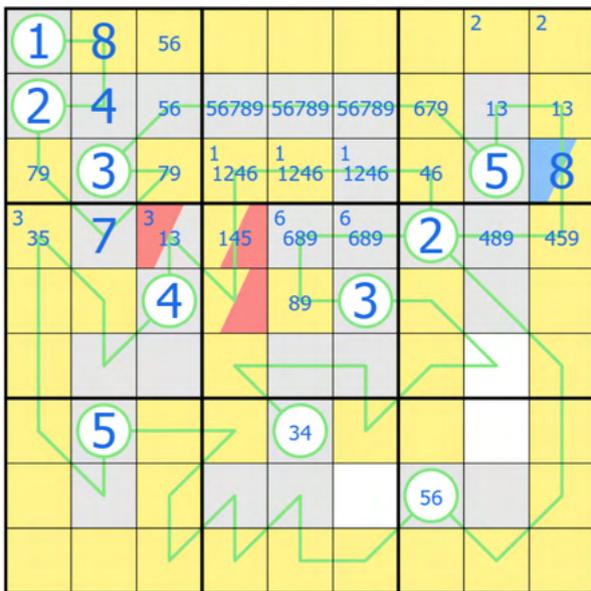
- $R2C9 + R3C8 + R3C9$ is maximum 26 so $R4C7$ can only be 2 to give a sum of 24 or 25
- Cells diagonally adjacent to the 2 must be unshaded
- If $R3C8$ is 4, two additional cells adjacent to this cell must be unshaded which either shuts in a yellow or creates a unshaded 2×2 , hence $R3C8$ is 5 and this forces digits



- $R5C6$ can't be 2, otherwise we would shut in a shaded cell, or create an unshaded 2×2 , and it can only be from 34 as the maximum line sum is 24
- If $R5C6$ is 4, $R5C5$ is 7, $R4C56$ are 89, and by math $R3C9$ would need to be 10, hence $R5C6$ is 3 and 689 are on the line
- By math, $R3C9$ is not 2 as $R4C89$ can't sum to 19. Not 4 or 6 as this would force 89 or 69 into $R4C89$ and break box 5, hence $R3C9$ is 8, and $R4C89$ is 49 or 58
- $R5C3$ can only be from 2 or 4



- R7C2 sees 4 shaded cells, but can't be a 4, hence this must be a 5, and R8C3 is shaded
- If R5C3 is a 2, either this sums to 25. Fails as minimum sum in C1 is 3456, and C2 is 126, which is 27. Or this sums to 52 which fails as maximum sum in C1 is 5689 and C2 is 589 which sums to 50
- Hence R5C3 is 4
- This forces shading and means the line from R5C3 to R3C7 sums to 24
- By outie math $R4C3 + R4C4 + R5C4$ sum to 3 greater than R3C9, hence sums to 11



- If R4C3 is 1, $R4C4$ and $R5C4$ sum to 10, but 19, 28, 37 and 46 are all unavailable, hence R4C3 is 3 with 17
- By outie math $R7C1 + R8C2 = R4C2 + R4C3 + R5C3 + R6C3$
- This forces R6C3 to be 1, R7C1 and R8C2 to be 69 pair, R9C2 to be 1, forces pairs and triples

1	8	56					2	2
2	4	56	5689	5678	56789	679	13	13
79	3	79	246	1246	1246	46	5	8
5	7	3	1	668	668	2	49	49
68	2	4	7	9	3			
689	69	1	245	245	245			
69	5	278		34				
34	69	278				56		
34	1	278						

- By outie math $R7C5 + R7C6 + R8C6$ sums to 6 (if $R8C7$ is 5) or 7 (if $R8C7$ is 6)
- $R7C6 + R8C6$ is a 12 pair
- $R5C7 + R6C7 + R6C8$ sum to 21 or 22, so does not contain 1 or 3

1	8	56					2	2
2	4	56	5689	5678	56789	679	3	1
79	3	79	2	1	46	46	5	8
5	7	3	1	668	668	2	49	49
868	2	4	7	9	3	568	1	56
8689	969	1	45	2	45	678	678	3
69	5	278		34	12			
34	69	278			12	56		
34	1	278						

- 1 and 3 are placed in C7
- By math $R7C5 + R8C7$ sum to 9. If this is 4 and 5, then $R8C6$ would need to simultaneously be shaded and unshaded. This means that these are 3 and 6

①	8	56	3	3			2	2
②	4	56	5689	5678	56789	679	3	1
79	③	79	2	1	46	46	⑤	8
5	7	3	1	⁶ 68	⁶ 68	②	49	49
⁸ 68	2	④	7	9	③	568	1	56
⁸ 689	⁹ 69	1	45	2	45	678	678	3
69	⑤	78	34	2	1			
3	69	278		1	⑥	² 56		
4	1	278			3			²

- Shading can be completed, and lots of digits follow

①	8	5	3	47	479	79	26	26
②	4	6	589	578	579	79	3	1
7	③	9	2	1	6	4	⑤	8
5	7	3	1	6	8	②	49	49
8	2	④	7	9	③	5	1	6
9	6	1	45	2	45	78	78	3
6	⑤	78	489	③	2	1	4789	479
3	9	278	458	4578	1	⑥	² 2478	457
4	1	278	5689	578	579	3	789	² 2579

- By math $R7C9 + R8C9 + R9C8$ sum to 22, which must be 589 which only works one way, and the digits all resolve

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