

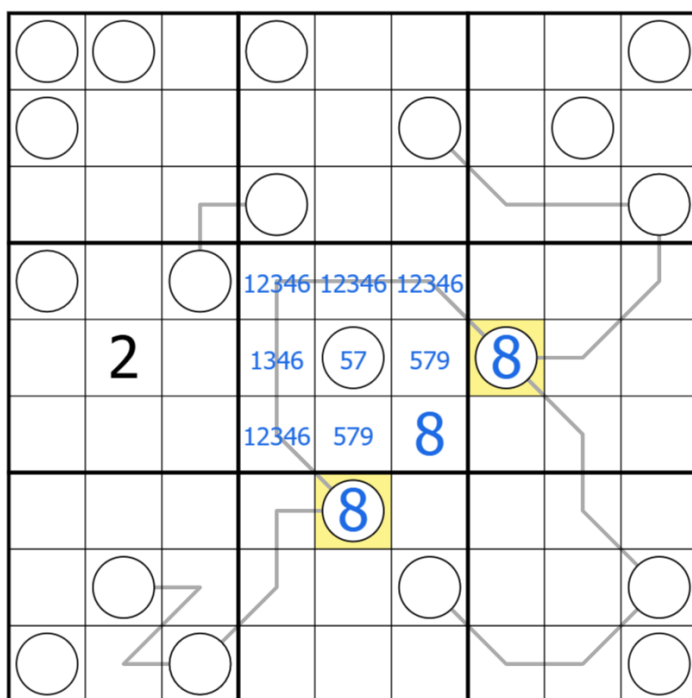
Network – Full Solution Guide

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

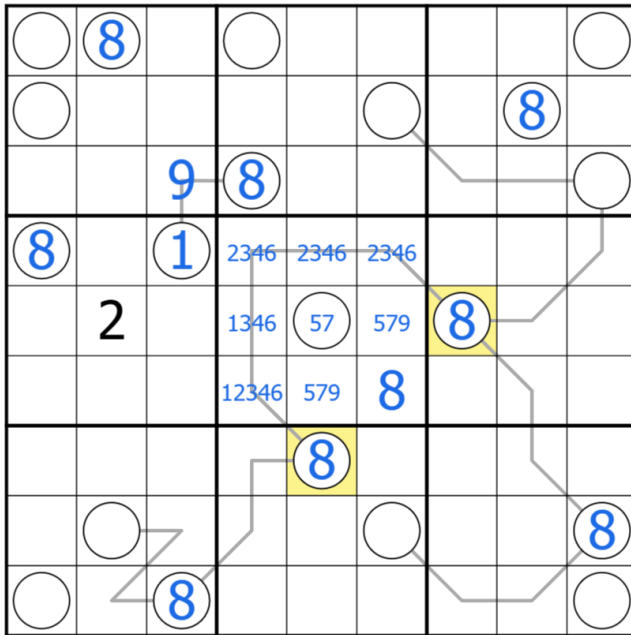
Rules

- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box
- **Counting Circles:** A digit in a circle indicates the number of circles that contain that digit. For example, if a 3 were in a circle, then three circles contain the digit 3
- **Double Arrows:** Digits along a grey line have the same sum as the sum of the two circles on either end. Circles at the end of double arrows are also counting circles

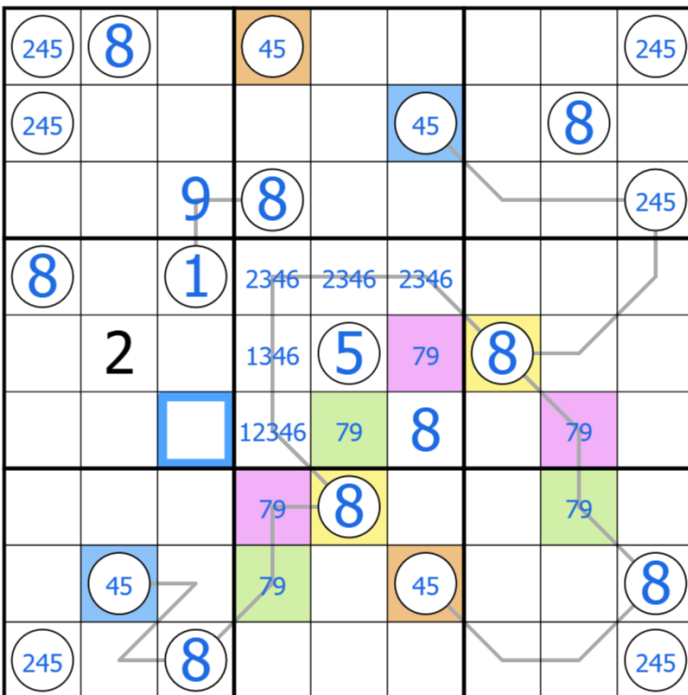
Solve Path



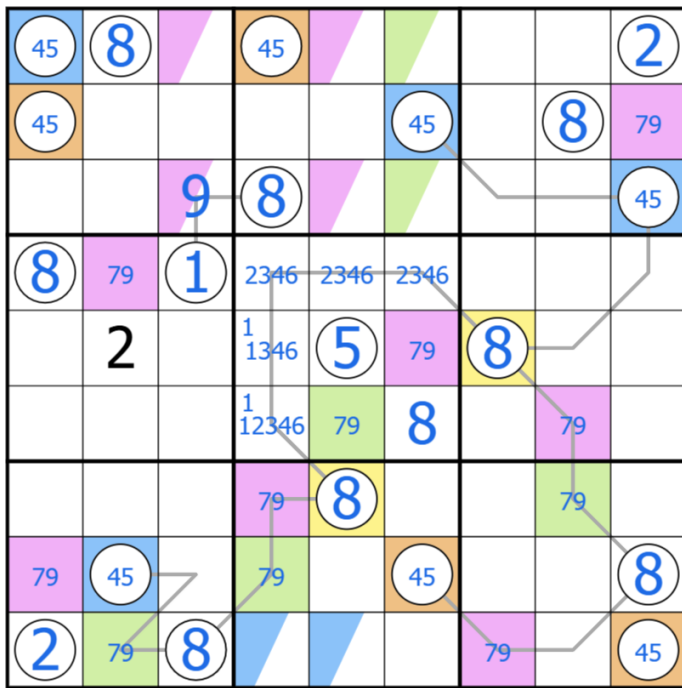
- There are 20 circles
- There are no circles in row 6, so 9 can't be in a circle
- If R5C7 and R7C5 were a 78 pair, the digit in R5C5 would need to be at least 6 and this would bust our total for the circles, hence these are both 8s, placing 8 in box 5 not in a circle, and 12346 on the line in box 5. R5C5 can't be a 9, so is from 57



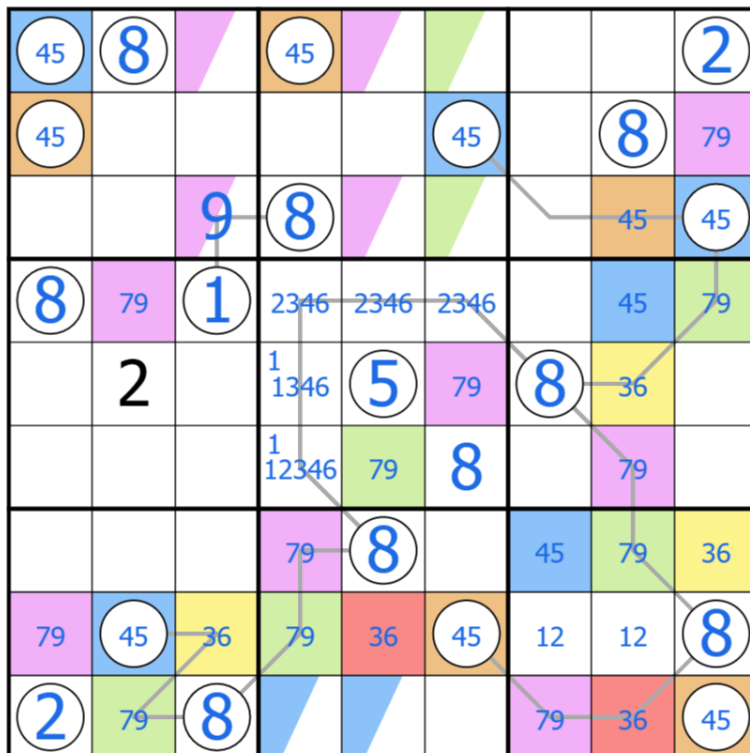
- Every other box needs 8 in a circle, and we can place these all
- We also find R3C3 is a 9, joined by a 18 double arrow, so 1 is placed in a circle



- We need 3 more digits in circles by column 1, and these must sum to 11, and one of them is from 57 by R5C5. Only 245 fits the bill
- In addition, the 2 in circles will be in column 1 and column 9, leaving 45 pairs that we can colour
- Double arrows that join a pair of 8s must be from 79, which we can colour



- Blue 45 in box 1 can only be in R1C1, which makes R1C9 a 2
- Blue 45 in box 8 points, making R9C9 orange 45
- R9C1 now sees both flavours of 45, so it is a 2



- Options for the double arrows in box 7 and box 9 are limited as there are 45 pairs in row 8 and box 9. Specifically we have $8 + 4 = 9 + 3$, or $8 + 5 = 7 + 6$. We can colour our 36 pairs and start to map 79, 45 and 36 pairs around the grid
- Column 8 gives us some digits as R1C8 is a naked single 1

45	8	367	45				1	2
45	36	2	36	1	45	79	8	79
¹ ₁₃₆₇	¹ ₁₃₆	9	8	2367	367	36	45	45
8	79	1	236	2346	36		45	79
	2		¹ ₁₃₄₆	5	79	8	36	¹ ₁₃₆
36			¹ ₁₂₃₄₆	79	8		79	¹ ₁₃₆
			79	8	2	45	79	36
79	45	36	79	36	45	1	2	8
2	79	8				79	36	45

- Considering the options for the double arrow in box 6, this must be an identical make up to box 7
- Considering the options for the double arrow in box 3, we have $4 + 4 = 5 + 3$, or $5 + 5 = 4 + 6$. This gives another 36 pair, and specifically it matches the yellow 36 flavour

45	8	7	45	9			1	2
45	36	2	36	1	45	7	8	9
¹ ₁₃₆	¹ ₁₃₆	9	8	2	7	36	45	45
8	9	1	236	346	36		45	7
	2		¹ ₁₃₄₆	5	9	8	36	¹ ₁₃₆
36			¹ ₁₂₃₄₆	7	8		9	¹ ₁₃₆
			9	8	2	45	7	36
9	45	36	7	36	45	1	2	8
2	7	8				9	36	45

- Yellow 36 can be placed in box 1, which places a 2

- Gives a red 36 in box 2, and places a 2 in box 2, which displaces a purple, resolving the order of green and purple in rows 123

5	8	7	4	9			1	2
4	6	2	3	1	5	7	8	9
¹ ₁₃	¹ ₁₃	9	8	2	7	6	4	5
8	9	1	²⁶ ₄₆	3		5	7	
	2		¹ ₁	5	9	8	6	¹ ₁₃
6			¹ ₁₂	7	8		9	¹ ₁₃
			9	8	2	5	7	6
9	5	6	7	3	4	1	2	8
2	7	8				9	3	4

- By mathematics we can resolve the 79, 45 and 36 pairs
- Then sudoku to finish

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