

Choose Your Fighter II – Full Solution Guide

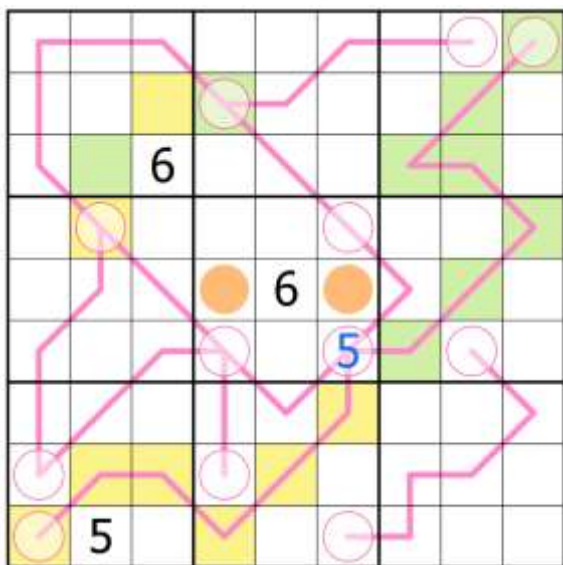
This is a full solution guide to my puzzle *Choose Your Fighter II*, and so spoilers are ahead.

Rules – Between Lines

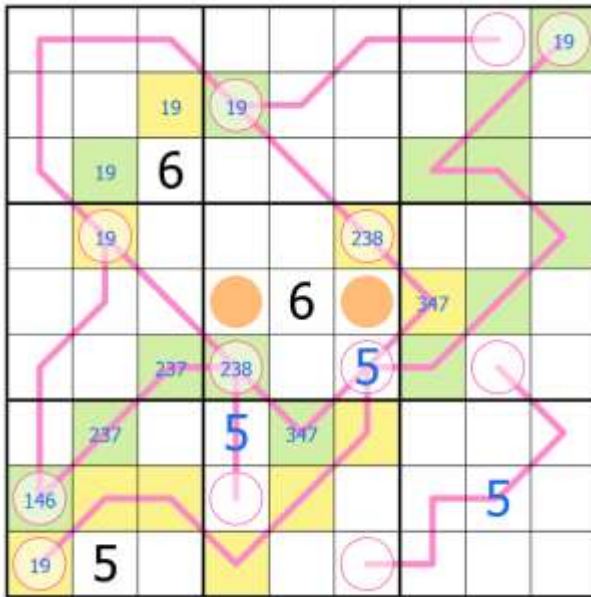
- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box
- **Between Lines:** Digits on a pink line must be strictly between the digits in the attached circles
- **Odd:** Digits on an orange circle must be odd

Solve Path

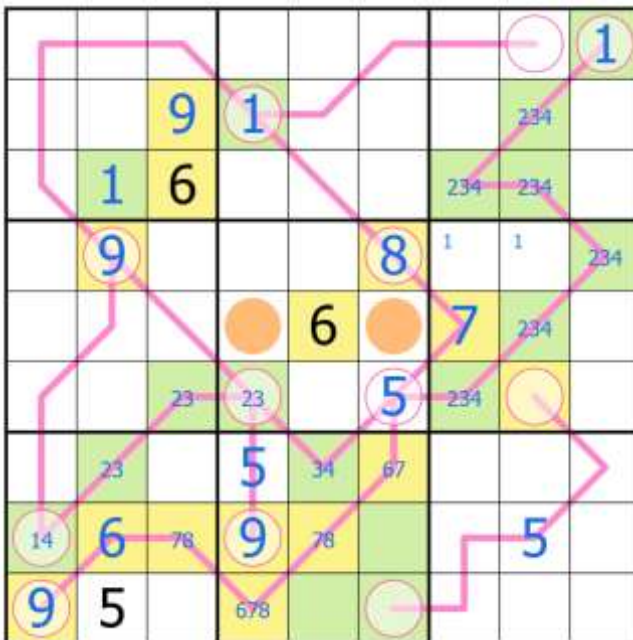
- We can think of digits as being either less than 5 or greater than 5 (or 5 itself)
- R4C2 and R2C4 must differ by at least 6, so these are definitely different sides of 5 and can be coloured accordingly
- Where is R2C4 in row 1? Not on its own between line or in its own box, so it must be R1C9
- Similarly R4C2 = R9C1
- By box 6, R1C9 and R6C6 must differ by at least 4, similarly by box 8 R9C1 and R6C6 must differ by at least 4, and we know that R1C9 and R9C1 are different sides of 5, so R6C6 is a 5



- R9C1 and R1C9 must be a 19 pair
- R8C235 must be either a 234 or a 678 triple, and R235C8 is the other of 234 or 678
- Makes R8C8 a naked 5
- Places 5 in box 8
- R7C5 must be green, and hence R6C4 is a more extreme green
- Similarly R5C7 must be yellow and R4C6 a more extreme yellow
- By the given 6, one of these between lines is a 7 connecting to an 8, and the other has options
- R8C1 can be 1 connecting to a 3 with 2s in between, a 4 connecting to a 2 with 3s in between or a 6 connecting to an 8 with 7s in between



- R8C4 must be yellow, and is from 19
- Leaves R9C6 to be green, which makes R6C8 yellow
- 6 in R8C1 breaks because it would force 7s into both R7C2 and R7C5
- Alternatively, 6 in R8C1 forces 6 into R9C6, but this would definitely have a more extreme green in R8C7
- Makes green low, so some 1s and 9s are placed, and our 234, 678 triples can be marked
- Places 6 in row 8



- Makes R8C6 low, and thus R6C8 high
- 1 can be pencilled in box 6, then box 4 and 5
- Makes R8C1 a 4, R6C3 a 3 and 2
- R7C5 is a 4, placing 4 in box 5, and the rest of box 5 can be completed
- Box 7 can be completed long with column 3

		8	67					1
		9	1				34	
	1	6	8			2	34	
	9	5	4	7	8	1	1	3
1		4	3	6	9	7	2	
		3	2	1	5	4		
8	3	2	5	4	67			
4	6	7	9	8	1	3	5	2
9	5	1	67	23	23			4

- By between line, can place 2 in box 4
- Much sudoku follows
- Can pencilmark remaining cells with bivalued and trivalued remaining

357	24	8	67	9	23467	56	67	1
357	24	9	1	235	23467	568	34	678
357	1	6	8	35	347	2	34	79
2	9	5	4	7	8	¹ 16	¹ 16	3
1	8	4	3	6	9	7	2	5
6	7	3	2	1	5	4	89	89
8	3	2	5	4	67	19	19	67
4	6	7	9	8	1	3	5	2
9	5	1	67	23	23	68	678	4

- To fulfil between line, R9C6 must be 2 as a 3 is already on the line
- To fulfil between line, R1C8 must be at least 6
- Makes a pair in row 1 making R1C7 a 5
- Remainder completes by sudoku

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

Bonus Puzzle – Rules

- Normal sudoku rules apply: Place the digits 1 to 9 once each in every row, column, and 3x3 box
- **Double Arrows:** Digits on a jade green line must sum to the same number as the sum of the two attached circles
- **Odd:** Digits on an orange circle must be odd

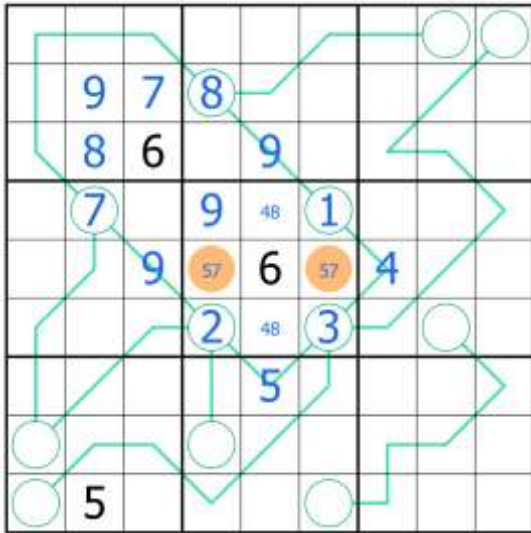
Bonus Puzzle – Solve Path

- Minimum of R4C2 + R2C4 is 15, so these must be at least 6
- Each circle connects to a larger digit, so maximum of these is 8
- Can't both be 8 as this would make two 1s in box 5, so these are a 78 pair connecting to a 12 pair with 9s in R5C3 and R3C5

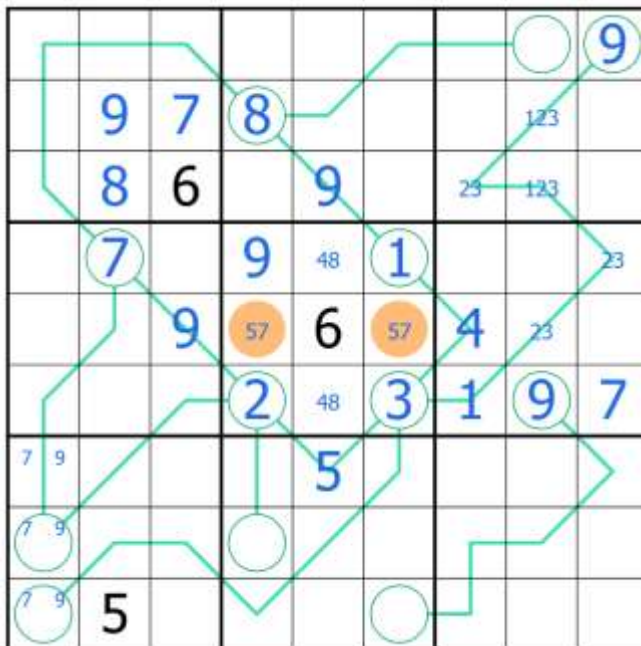
[illegible]

- R6C6 is at most 7, so 9 is placed in box 5
- R6C6 can't be 7 as it would place a 9 in either R7C5 or R5C7, can't be 6 by sudoku, can't be 4 or 5 as it would place a 6 seeing the given 6, so must be 3

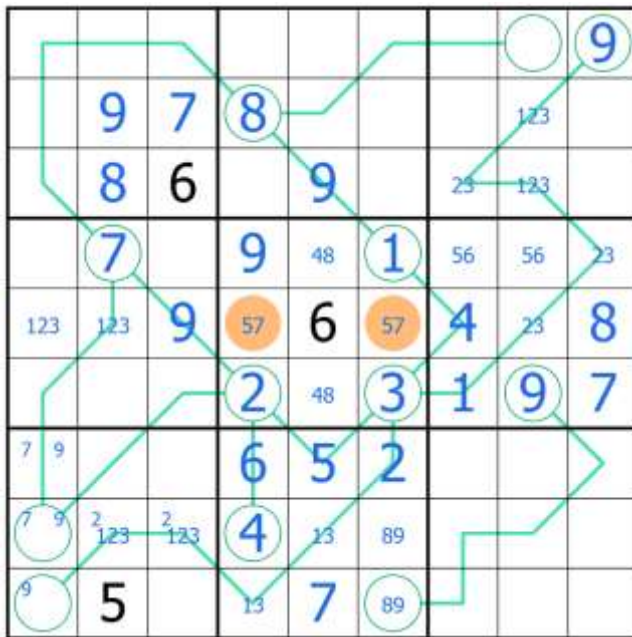
- Makes 45 pair in R5C7 and R7C5
- Remaining cells in box 5 can be split into pairs by the odd circles
- Resolves 45 pair in turn resolving 12 pair and 78 pair



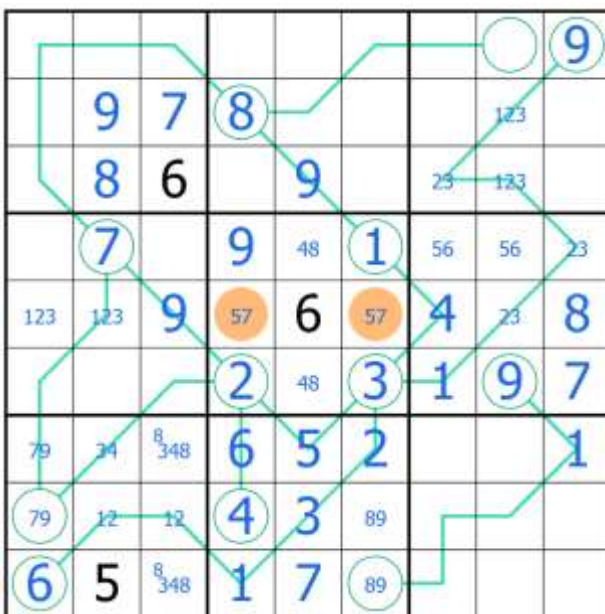
- Line minimums in box 3 and 6 are 123 triples, so we can min max these and place a 9 in R1C9
- Places 9 in box 6, then 7
- 7 and 9 pencilmarked into box 7



- R7C4 and R8C4 differ by 2. By sudoku 2, 5, 8 and 9 are ruled out, leaving only 13 and 46 as options
- 13 would leave minimum 245 for the line in box 8 which busts the total
- Hence R7C4 is a 6, R8C4 is a 4
- Maximum digit on the line in box 8 is a 6 by math, so 789 and roughly placed
- 2 is placed leaving a 13 pair
- By sudoku, R8C23 are from 123, and definitely contains a 2



- By math, R9C1 to R6C6 line is 9 or 11, which makes R9C1 6 or 8
- Leaves 79 pair in box 7
- By sudoku 6 is placed in R9C1
- Makes a 12 pair on the line in box 7, resolving the 13 in box 8
- Leaves a 348 triple in box 7



- By sudoku R6C3 is from 458, however 8 is ruled out by box 7
- By math, only 5 and 4 linking to a 7 works
- By math R8C1 to R5C2 is resolved
- Much sudoku follows

	3	4	57	12	567			9
	9	7	8	12	456		3	
	8	6	3	9	457	2	1	
8	7	2	9	4	1	56	56	3
3	1	9	57	6	57	4	2	8
4	6	5	2	8	3	1	9	7
9	4	8 38	6	5	2	378	78	1
7	2	1	4	3	89			
6	5	8 38	1	7	89			

- Filling in basic sudoku leaves a lot of pairs and triples
- 89 pairs in box 8 and 9 show that $R9C6 = R8C7$, and hence the other digits on the line sum to 9 (and already contains a 1)

12	3	4	5	12	6	78	78	9
12	9	7	8	12	4	56	3	56
5	8	6	3	9	7	2	1	4
8	7	2	9	4	1	56	56	3
3	1	9	7	6	5	4	2	8
4	6	5	2	8	3	1	9	7
9	4	8 38	6	5	2	378	78	1
7	2	1	4	3	89	89	56	56
6	5	8 38	1	7	89	389	4	2

- Only one possible option works in box 9
- Resolves the 56 pairs leaving only 78 and 12 pairs
- By available options, only $R1C8 = 7$ works, resolving the remaining digits

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