SOVEREIGN PUBLISHING

THE EXTREME SOLVER'S TOOLKIT

10 Diabolical Bonus Puzzles

+ Advanced Techniques Cheat Sheet

★★★★★ **EXPERT DIFFICULTY**

A FREE BONUS FOR SOVEREIGN SUDOKU SERIES READERS

ADVANCED TECHNIQUES -- QUICK REFERENCE

NAKED SINGLES

The foundation. When only one candidate remains in a cell after eliminating numbers in its row, column, and box — that number must go there. Always scan for these first.

HIDDEN SINGLES

A number that can only appear in one cell within a row, column, or box, even though that cell has multiple candidates. Scan each unit for digits with only one valid placement.

NAKED PAIRS / TRIPLES

Two cells in the same unit sharing exactly the same two candidates form a Naked Pair — those candidates can be removed from all other cells in the unit. Triples extend this to three cells and three shared candidates.

HIDDEN PAIRS

When two candidates appear in only two cells within a unit, all other candidates in those two cells can be removed. The pair is "hidden" among other candidates.

X-WING

When a candidate appears in exactly two cells in each of two rows, and both in the same two columns — that candidate can be eliminated from all other cells in those columns. Mirror logic applies rows/columns swapped.

SWORDFISH

The three-row extension of X-Wing. A candidate in exactly two or three cells across three rows, all within the same three columns — eliminates the candidate from all other cells in those three columns.

XY-WING

Three cells: pivot (AB), pincer1 (AC), pincer2 (BC). The pivot sees both pincers. Any cell seen by both pincers cannot contain C — because the pivot forces C into one pincer regardless of which value it takes.

FORCING CHAINS

Assume a value is true or false. Follow all implied consequences (singles, pairs). If both branches lead to the same result in another cell — that result is certain regardless. Used when all pattern techniques are exhausted.

PUZZLE 1 OF 10

★★★★★ EXTREME

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

Solution for Puzzle 1 on page 13

PUZZLE 2 OF 10

* * * * * EXTREME

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

Solution for Puzzle 2 on page 14

PUZZLE 3 OF 10

* * * * * EXTREME

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

Solution for Puzzle 3 on page 15

PUZZLE 4 OF 10

★★★★★ EXTREME

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

Solution for Puzzle 4 on page 16

PUZZLE 5 OF 10

* * * * * EXTREME

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

Solution for Puzzle 5 on page 17

PUZZLE 6 OF 10

★★★★★ EXTREME

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

Solution for Puzzle 6 on page 18

PUZZLE 7 OF 10

* * * * * EXTREME

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

Solution for Puzzle 7 on page 19

PUZZLE 8 OF 10

* * * * * EXTREME

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

Solution for Puzzle 8 on page 20

PUZZLE 9 OF 10

* * * * * EXTREME

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

Solution for Puzzle 9 on page 21

PUZZLE 10 OF 10

★★★★★ EXTREME

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

Solution for Puzzle 10 on page 22

SOLUTION -- PUZZLE 1

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 2

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 3

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 4

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 5

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 6

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 7

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 8

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 9

Black = given clues **Red = solved cells**

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

SOLUTION -- PUZZLE 10

Black = given clues **Red = solved cells**

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