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From the leader in Sudoku puzzles!

76
Puzzles
Hours of Fun!

Super Sudoku™

Ages 9-99

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

Book 1

Levels 1-3

Easy to Medium

- Three Levels of Difficulty
- Learn Strategies and Solutions
- Use Logical Reasoning

James E. Riley, PhD

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Dedication

This book is dedicated to Ben, Chris, Josh, and Sam, who were students in Class 6 at Bishop Perrin School, Whitton, England. Their enthusiasm for Sudoku puzzles inspired me to put together this book. *James E. Riley*

About Sudoku

Sudoku is a name for a type of number-placing puzzle. Solving a Sudoku puzzle requires logic and will improve your brain power and reasoning skills. These skills come in handy for all problem solving you might be asked to do.

Sudoku puzzles started in Japan. The Japanese language does not lend itself to crossword puzzles because the language uses complex characters to form words rather than an alphabet. Sudoku puzzles were created to challenge Japanese readers as crosswords challenge those with alphabet languages.

Su means “number” in Japanese. *Doku* means “bachelor” or “single.” *Sudoku* can be translated loosely as “single number.”

Now Sudoku puzzles are creating a worldwide phenomenon. Hundreds of newspapers around the world now publish daily Sudoku puzzles. Countless websites are devoted to all things Sudoku. Puzzle fans all over the world are finding themselves becoming addicted to Sudoku—spending hours trying to fill in those last few numbers!

The rules are easy to learn and some puzzles are very easy. However, some are extremely difficult. This book contains puzzles at several difficulty levels. When solving a puzzle, always use a pencil with a good eraser.

This book includes solutions in the back. Do not use them for hints if you become stuck. It is better to set the puzzle aside for awhile and return to it later with a fresh mind. When you have solved the puzzle correctly, the solution is obvious because all the number-placement rules are evident.

The Puzzle

A Sudoku puzzle contains nine 3x3 squares inside a 9x9 square and looks like this:

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

The eighty-one small squares are called *cells*. The 3x3 squares are called, sensibly enough, *squares*. A horizontal line of nine cells is called a *row*. A vertical line of nine cells is called a *column*. The entire 9x9 square is called the *puzzle*.

The rules of the game are simple. Namely, place the digits 1 through 9 in the cells so that each digit occurs once and only once in each square, row, and column. Following is the solution for the above puzzle:

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

Solving Strategies

Sudoku puzzles are solved by using logical thought. You don't need a knowledge of mathematics, and guessing will not help. In fact, guessing can hinder finding the solution. This section provides you with strategies for solving Sudoku puzzles.

You're going to solve the following Sudoku puzzle using various Sudoku strategies. As you work through the strategies, you will replace the shaded letters in each cell with the correct numbers.

S				G	5	9	3	2
3	5		4	2		V	W	8
R	8	A				U	B	H
5		8			4	7	P	1
1	4			7		Q	8	6
2	C	3	8	I	T	5	J	9
D		F				E	1	O
6				9	1	K	7	5
7	3	1	6			L	M	N

Starting Out—Find the Lone Number

Every Sudoku puzzle contains blank cells that can be determined logically by examining the known cell digits. Consider the upper left square of our sample puzzle. That square is missing a 2. Because the top two rows of the puzzle already contain 2s, the cell R or A must contain a 2. However the column containing cell R already contains a 2. Thus cell A must contain the 2 for this square. Write a 2 in cell A.

Using this method, you will see that cell B is 5, cell C is 7, and cell D is 8. Use this procedure to determine the digits for cells E, F, G, H, I, and J. Write the digits in the proper cells.

Going Deeper—Find the Doubles

Cells P and Q are now the only unknowns in the right middle square. The only two digits not listed in that square are 2 and 3, except you do not know which is which. These pairs are known as *doubles*.

In this case P is in a column with a 3. Thus, P is not 3. It must then be 2. Q is 3.

Cells S and R are also doubles. Try to determine their digits.

Stepping It Up—Explore the Possibilities

You will reach a point where you have no more obvious choices. Now examine all the cells. That is, select a square, row, or column and write in all possible choices for each cell. Consider the lower right square. Cell K could be 2 or 8. 4 is not a possibility because there is already a 4 in column 8 and we know the 4 for the upper right square must be in column 7. Cell L could be 2 or 8. M can only be a 9.

N could be 4. O could be 3 or 4. Write these digits lightly in the appropriate cells. Cell N is 4 because that is the only choice. Cell O cannot be 4, so O must be 3. This leaves K and L as the doubles 2 and 8.

Examine all the cells in the upper right square and determine the digits for cells U, V, and W.

Getting Closer—Complete the Squares, Rows, and Columns

When any square, row, or column has only one or two unknown digits, you can often determine them easily. The sixth row has only one unknown cell, T, which must be 6.

You should now be able to complete the second row also.

When All Else Fails—Guess

Generally, guessing will not help. However, when all else fails—guess. But guess smart. Select a cell with only two unknowns. Select one of the possible choices and circle it. Continue working the puzzle, circling each placement. If you have made a good guess, you will move toward a correct solution.

If you make an incorrect guess, you will most likely see an error. That is, the same digit will appear twice in the same square, row, or column. Erase all the circled digits and proceed with the “correct” guess. Guessing is not needed in our puzzle.

Continue using the techniques discussed here to complete the solution to the puzzle. The solution follows. You may peek at the solution just this once.

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

The puzzles in *Super Sudoku Book 1* are organized into Level 1, Level 2, and Level 3. Level 1 is designed to introduce you to puzzles that you can easily complete. The puzzles in Level 2 and 3 become slightly more difficult as you go along.

The puzzles in *Super Sudoku Book 2* are organized from Level 1 to Level 6. The puzzles in this book become trickier than the puzzles in *Super Sudoku Book 1*. Levels 4, 5, and 6 become increasingly difficult to challenge even the most avid Sudoku puzzlers! Find out how far you can go.

Now try a few and see if you can stop puzzling!

1

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

2

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