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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

Other Sudoku puzzle books by James E. Riley:
Super Sudoku Book 1—76 traditional Sudoku puzzles, \$5.95
Super Sudoku Book 2—76 puzzles, including dual Sudoku, \$5.95
Super Easy Sudoku Book 3-76 easier Sudoku puzzles, \$5.95
Super Variety Sudoku-120 puzzles, including traditional, dual,

## Sudoku SUMS

Sudoku Sums are a new variety of Sudoku puzzles with the same basic rules. However, two types of clues are provided: the traditional number clue in a single cell, and a new type of clue, a sum, that covers two or more cells.

If you are already familiar with traditional Sudoku you'll probably recognize how to proceed. If you are new to Sudoku you'll want to continue reading About Sudoku, The Traditional Sudoku, and Solving Strategies to learn the basics.

Notice in the puzzle below left that where traditional clues do not exist there are two adjacent cells bound together, called regions. The digits of the cells in the bounded regions add up to the number clue printed in the upper left corner of the region. To solve the puzzle place each digit 1 through 9 in every square, column, and row. No digit is repeated in a two-cell region. Some puzzles have regions of three adjacent cells, and one puzzle has a "criss-cross" five-cell region.

Here is a Sudoku Sums puzzle and its solution:

| 2 | 4 |  |  | " |  |  |  | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - |  | - |  | ${ }^{13}$ |  |  | 4 |
|  | 1 | 9 | 6 |  |  | 7 |  |  |
|  |  | ${ }^{\circ}$ |  | 13 |  | 4 |  |  |
|  |  |  |  | 9 |  |  |  |  |
| 10 |  | 4 |  |  |  |  |  |  |
|  | ${ }^{9}$ | 2 | - |  | 6 | 3 |  |  |
| 3 |  | ${ }^{\circ}$ |  | $\bigcirc$ |  |  |  |  |
| 4 |  |  | " |  | 14 |  | 1 |  |


| 2 | 4 | 7 | 9 | 3 | 8 | 1 | 6 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 6 | 3 | 7 | 2 | 5 | 8 | 9 | 4 |
| 8 | 5 | 9 | 6 | 4 | 1 | 7 | 2 | 3 |
| 5 | 9 | 1 | 2 | 6 | 7 | 4 | 3 | 8 |
| 6 | 3 | 8 | 5 | 9 | 4 | 2 | 7 | 1 |
| 7 | 2 | 4 | 8 | 1 | 3 | 6 | 5 | 9 |
| 9 | 1 | 2 | 4 | 5 | 6 | 3 | 8 | 7 |
| 3 | 8 | 5 | 1 | 7 | 2 | 9 | 4 | 6 |
| 4 | 7 | 6 | 3 | 8 | 9 | 5 | 1 | 2 |

Three simple observations will help you solve Sudoku Sums:

1) Sudoku Sums puzzles are based on Sudoku puzzles. All strategies used to solve Sudoku puzzles can be used to solve Sudoku Sums puzzles; 2) Because each square, column, and row contains the digits 1 through 9 , the sum of all digits in each square, column, and row must total 45; and 3) The two-cell region sums range from 3 to 17 ; the three-cell region sums can range from 6 to 26; the five-cell region sums range from 9 to 40 .

## 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 number 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."

Sudoku puzzles are fun and addictive once you start solving them. The rules are easy to learn and some puzzles are very easy. However, some are extremely difficult.

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 Traditional Sudoku Puzzle

A Sudoku puzzle contains nine 3 x 3 squares inside a 9 x 9 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 $3 \times 3$ 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 $9 \times 9$ 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 |

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 strategies. As you work through the strategies, you will replace the shaded letters in each cell with the correct numbers. When solving a puzzle, always use a pencil with a good eraser.

| 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 | 0 |
| 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 2 s , 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.

Sample from: 'Sudoku Sums' | Product code: GDY415 The entire product is available for purchase at www.socialstudies.com or www.goodyearbooks.com 3

| 9 |  |  |  |  |  |  |  |  | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  | 3 | " |  |  |  | 7 |
| 7 |  |  |  | - |  | ${ }^{\circ}$ |  |  | 6 |
| ${ }^{15}$ |  |  |  |  | " |  | 6 |  |  |
|  |  |  | . | 6 |  |  | 5 |  |  |
|  |  |  |  | . | ${ }^{\prime}$ |  | 8 |  |  |
| 3 |  |  | " |  |  |  |  |  | 4 |
| 5 |  |  |  | 9 | " |  |  |  | 8 |
| 2 |  |  |  |  |  |  |  |  | 5 |

My Time:
$\square$

| 10 | 10 | $2$ | ${ }^{6}$ | $1$ | ${ }^{8}$ | $\bigcirc$ | ${ }^{13}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7 |  | ${ }^{11}$ |  | ${ }^{17}$ | $\bigcirc$ | 5 | 5 |
| 13 |  | ${ }^{11}$ |  | ${ }^{11}$ |  | 8 | $\bigcirc$ |  |
| 8 | 17 |  | ${ }^{9}$ | $1$ | ${ }^{3}$ | $2$ | ${ }^{11}$ |  |
|  | 5 |  | 2 | 5 | 7 | ${ }^{17}$ | $\bigcirc$ | 7 |
| 8 |  | ${ }^{16}$ | $1$ | ${ }^{12}$ |  |  | $1$ | , |
| 16 | 9 |  | $\sqrt{11}$ |  | $\sqrt{7}$ | $3$ | ${ }^{11}$ |  |
|  | 6 | ${ }^{9}$ |  | 6 |  | 10 | $5$ | 13 |
|  |  | $9$ | $\int$ | 14 |  | $10$ | $1$ | ) |

My Time:
$\qquad$

Sample from: 'Sudoku Sums' | Product code: GDY415 The entire product is available for purchase at www.socialstudies.com or www.goodyearbooks.com


My Time:
$\square$

