| Name: | Country: | Number: |
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## Part 6

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2ND WORLD SUdOKU CHAMPIONSHIP Prague - Czech Republic 28. 3.-1. 4. 2007


Total:

$\square$

## 1 Neighbouring Sudoku

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows, columns and the nine outlined $3 \times 3$ regions. For each circled cell sum of its vertical neighbours must be equal to the sum of its horizontal neighbours.

20 points

|  | 9 |  | 8 |  | 2 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 |  |  | $\bigcirc$ | $\bigcirc$ |  |  | 9 |  |
|  |  |  |  | 5 | O | O |  |  |  |
| 8 |  |  |  | $\bigcirc$ |  | 3 |  |  |  |
|  | 7 |  |  |  |  |  |  |  | $\bigcirc$ |
|  |  | 0 |  | $\bigcirc$ |  |  |  |  | 2 |
| 7 |  | 5 |  |  | O | $\bigcirc$ |  |  |  |
|  |  |  |  |  | O | 5 |  |  |  |
|  |  |  |  | 6 |  |  |  | 7 |  |


| 3 | 9 | 7 | 8 | 4 | 2 | 6 | 1 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{2}$ | 5 | 4 | 3 | 1 | 6 | 8 | 9 | 7 |
| 6 | 8 | 1 | 9 | 5 | 7 | 2 | 4 | 3 |
| 8 | 6 | 9 | 7 | 2 | 1 | 3 | 5 | 4 |
| 5 | 7 | 2 | 4 | 3 | 8 | 9 | 6 | 1 |
| 4 | 1 | 3 | 6 | 9 | 5 | 7 | 8 | 2 |
| 7 | 4 | 5 | 2 | 8 | 9 | 1 | 3 | 6 |
| 9 | 3 | 6 | 1 | 7 | 4 | 5 | 2 | 8 |
| 1 | 2 | 8 | 5 | 6 | 3 | 4 | 7 | 9 |



## 2 Untouchable Sudoku

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows, columns and the nine outlined regions. Cells with the same digits cannot touch each other even diagonally.


Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows, columns and the irregularly shaped regions.

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


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



## 4 Product

## Points:

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows, columns and the nine outlined $3 \times 3$ regions.

Small clue-numbers are either placed on the border lines between selected pairs of neighbouring squares of the grid or placed after slash marks on the intersections of border lines between two diagonally adjacent squares. Each small clue-number is the product of two digits in the two squares that are horizontally or vertically or diagonally adjacent to each other. The position of each pair of diagonally adjacent squares is indicated by either two forward slash marks // or two backward slash marks <br>. (Slash marks only in this example.)


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



## 5 Diagonal

Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows，columns and the nine outlined $3 \times 3$ regions．Additionally，each digit appears exactly once in each of the two main diagonals．

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


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


| $\because$ 。 |  | 9 |  |  | 2 |  | 1 | $\circ^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\because$ 。 |  |  |  |  | 5 | $\circ^{\circ}$ | 4 |
| 6 |  | $\because$ 。 |  |  |  | $\square^{\circ}$ | 2 |  |
|  |  |  | $\bigcirc$ | 9 | $\circ^{\circ}$ |  |  | 7 |
|  |  |  | 8 | $\because$ | 1 |  |  |  |
| 4 |  |  | $\bigcirc^{\circ}$ | 3 | $\because$ |  |  |  |
|  | 2 | $\circ^{\circ}$ |  |  |  | $\bigcirc$ |  | 3 |
| 5 | $\circ^{\circ}$ | 3 |  |  |  |  | $\because$ 。 |  |
| $\square^{\circ}$ | 4 |  | 5 |  |  | 7 |  | $\because$ 。 |

## 6 Crossnumber

Points:

Fill in the white cells with given number words. Then using written digits solve sudoku. Place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows, columns and the nine outlined $3 \times 3$ regions.

20 points


12896728
26176781
39618149
47219356
52619385
56389436
62519847

## 7 Transparent Sudoku

Points:

The highlighted sudoku doesn't have the unique solution. Choose one of the remaining sudoku grids, move it to a proper position and transfer it over the highlighted one in order to create a solvable sudoku. The transferred sudoku may be rotated but not mirrored. Finally, solve the created sudoku - place a digit from 1 to 9 into each of the empty squares so that each digit appears exactly once in each of the rows, columns and the nine outlined $3 \times 3$ regions.

20 points


