# WPF sudokugp 2014 COMPETITION BOOKLET 

## ROUND6

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Organised by


1 Classic Sudoku
(18 points)
Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

Answer Key: Enter the $1^{\text {st }}$ row of digits, followed by the $6^{\text {th }}$ row of digits.
$\left(\begin{array}{ll|l|l|l|l|l|l|l|l|}\hline & & 3 & & & & 7 & & \\ \hline & 2 & & 4 & & 6 & & 8 & \\ \hline 1 & & & & 5 & & & & 9 \\ \hline & & 5 & & & & 1 & & \\ \hline & 6 & & 8 & & 1 & & 2 & \\ \hline & & 4 & & & & 3 & & \\ \hline 7 & & & & 2 & & & & 4 \\ \hline & 9 & & 1 & & 3 & & 5 & \\ \hline & & 8 & & & & 6 & & \\ \hline\end{array}\right.$

2 Classic Sudoku (20 points)
Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

Answer Key: Enter the $2^{\text {nd }}$ row of digits, followed by the $8^{\text {th }}$ row of digits.

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

## 3 Classic Sudoku

(22 points)
Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

Answer Key: Enter the $5^{\text {th }}$ row of digits, followed by the $9^{\text {th }}$ row of digits.


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

## 4 Classic Sudoku

(24 points)
Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

Answer Key: Enter the $8^{\text {th }}$ row of digits, followed by the $5^{\text {th }}$ column of digits.

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

## 5 Classic Sudoku

(26 points)
Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

Answer Key: Enter the $4^{\text {th }}$ row of
 digits, followed by the $9^{\text {th }}$ row of digits.

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

## 6 Classic Sudoku

(28 points)
Place a digit from 1 to 9 in each empty cell so that each digit appears exactly once in each row, column and outlined $3 \times 3$ region.

Answer Key: Enter the $2^{\text {nd }}$ row of digits, followed by the $9^{\text {th }}$ row of digits.

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

7 Fortress Sudoku (35 points)
Apply Classic Sudoku rules. Additionally, each digit in a shaded cell must be larger than any digit in an unshaded cell that it shares an edge with.

Answer Key: Enter the $3^{\text {rd }}$ row of digits, followed by the $9^{\text {th }}$ row of digits.





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## 8 Irregular Sudoku

( 60 points)
Apply Classic Sudoku rules. Additionally, instead of $3 \times 3$ regions, the regions have irregular shapes.

Answer Key: Enter the $2^{\text {nd }}$ row of digits, followed by the $9^{\text {th }}$ row of digits.


9 Extra Region Sudoku (47 points)

Apply Classic Sudoku rules. Additionally, each digit appears exactly once in each of the extra shaded regions.

Answer Key: Enter the $1^{\text {st }}$ row of digits, followed by the $9^{\text {th }}$ row of digits.

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

## 10 Killer Sudoku

( 60 points)
Apply Classic Sudoku rules. Additionally, the sum of the digits in each cage must equal the value given in the upper-left corner of that cage. Digits cannot repeat inside a cage.

Answer Key: Enter the $5^{\text {th }}$ row of digits, followed by the $9^{\text {th }}$ row of digits.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline ${ }^{15} \cdots$ \& \& $\square$ \& \& $\square$ \& \& $\square$ \& : ${ }_{\text {21 }}$ \& <br>
\hline \& $\square$ \& \&  \& \& $\square$ \& \& ¢ $\mathrm{l}^{7} \cdots \cdots$ \& <br>
\hline  \& \&  \& 16 ${ }^{-\cdots}$ \& \& \&  \& \& $\square^{16^{\cdots \cdots}}$ <br>
\hline \& $\square$ \& :14 ${ }^{-\cdots}$ \&  \& \&  \&  \&  \& <br>
\hline ¢ 7 \& $\square$ \& \& 16… \& \& $\square$ \& - \& : $7^{7 \cdots \cdots}$ \& <br>
\hline \& ! ${ }^{9} \cdots$ \& \& $$
9
$$ \& \& :20… \& \&  \& <br>
\hline \& \& \& ${ }^{12 \cdots}$ \& \& \& \& \& <br>
\hline ${ }^{24 \cdots}$ \&  \& \& $8 \cdots$

$\cdots \cdots \cdots$ \& $\square$ \& $\square$ \& \& ¢ \& ${ }^{\cdots \cdots}$ <br>
\hline \& $\square$ \&  \& \&  \& \& ( \& $\cdots$ \& <br>
\hline
\end{tabular}

11 Outside Sums Sudoku (72 points)
Apply Classic Sudoku rules. Additionally, the clues outside the grid indicate the sum of the first three digits in that direction.

Answer Key: Enter the $7^{\text {th }}$ row of digits, followed by the $3^{\text {rd }}$ column of digits.

## 12 3D Sudoku

## (21 points)

Place a digit from 1 to 8 into each empty cell so that each digit appears exactly once in every "row" and outlined region. Rows pass through opposite parallel sides of each quadrilateral; in other words, the rows bend across the surface of the apparent cube.

Answer Key: Enter the $1^{\text {st }}$ "row" of digits, followed by the $7^{\text {th }}$ "row" of digits, which wrap around the surface of the cube.

\left.| 13191310221314247 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 |  |  |  |  |  |  |  |
| 16 |  |  |  |  |  |  |  |
| 16 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |  |$\right)$



## 13 Parquet Sudoku (35 points)

Apply Classic Sudoku rules. Additionally, some cells belong to multiple rows and/or columns.

Answer Key: Enter the $2^{\text {nd }}$ row of digits, followed by the $11^{\text {th }}$ row of digits.


## 14 Product Arrow Sudoku

 (72 points)Apply Classic Sudoku rules. Additionally, some arrows are in the grid. The encircled 1,2, or more digits must be equal to the product of the digits that appear along the path of the arrow. Digits can repeat within an arrow shape.

Answer Key: Enter the $3^{\text {rd }}$ row of digits, followed by the $7^{\text {th }}$ row of digits.


## 15 Roman Numeral Sudoku

## ( 60 points)

Apply Classic Sudoku rules. Instead of clues for the digits 1 to 9 , this sudoku gives clues for Roman numerals I, II, III, IV, V, VI, VII, VIII, IX. Not all clues are complete numbers; some of them may be just part of the Roman numeral.

Answer Key: Enter the $1^{\text {st }}$ row of digits, followed by the $8^{\text {th }}$ row of digits. Use digits 1 to 9 when submitting the answer rows.


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| VII | X |  | I | V | V | I | I | VI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VI | I | II | II | V | VII | V |  |  |
| VI | V | V | I | I | II | VI | II | VI |
| I | V | I |  | II | V | VII | II |  |
| II |  |  | I | X | I |  | V | V |
|  | I | V | VIII | V | V | VI | III | I |
| V | II | VI | I | V | I |  | VI | II |
| II | I | I |  | VII | VI | II | VI | V |
| I | V | V | V | III | II | I | V | III |

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