## Sudoku Practice

Use the following information to answer the first question.

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

1. The numbers for cells $A$ and $B$ respectively, are, $\qquad$ and $\qquad$ -

Use the following information to answer the next question.

|  | $5 \xrightarrow{C}$ | D | 9 | 3 |  | 6 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -7 | 76 | 1 |  | 4 | 3 | 9 |  |
|  | 98 | $E$ |  |  |  |  |  |
|  |  | 8 |  | 6 | 5 | 3 | 9 |
|  |  |  | 2 | 5 |  |  |  |
| 6 | $6 \quad 7$ | 5 | 3 |  | 8 |  |  |
|  |  |  |  |  |  | 1 | 3 |
|  | 9 | 4 | 6 |  | 2 | 8 | 7 |
|  | 1 |  | 7 | 8 |  |  | 4 |

2. When the upper left $3 \times 3$ box is completed, the numbers is cells $C, D$, and $E$ respectively, are $\qquad$ and $\qquad$ .

Use the puzzle below to answer the next question.

3. The puzzle above identifies the location of 5,9s. (there are still 4 to be determined). In which $3 \times 3$ box do we currently have enough information to place the next 9 with certainty?
A) Middle
B) Middle Left
C) Lower Middle
D) Lower Right

Use the following puzzle to answer the next question.

| 2 |  | 3 |  |  | 4 | 8 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 6 |  |  |  |  | 5 |  |  | 1 |
|  | 7 | 5 |  | 8 | 9 |  |  |  |
|  | 6 | 2 | $A$ | $\mathcal{B}$ | $C$ | 3 |  | 4 |
| 5 | 3 |  | $D$ | $E$ | $F$ |  | 1 | 8 |
| 8 |  | 4 | $G$ | 7 | $I$ | 6 | 2 |  |
|  |  |  | 6 | 5 |  | 9 | 4 |  |
| 4 |  |  | 7 |  |  |  |  | 2 |

4. There are no numbers given for the middle box; each cell is labelled with ABCDEFGHI. We know for sure that 8 will fill one of these cells. Which one is it?
A) A
B) $B$
C) $C$
D) $D$
5. The number filling cell $K$ below is $\qquad$ .

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

Use the puzzle below to answer the next question.

| 2 |  | 3 |  |  | 4 | 8 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 |  |  |  |  | 5 |  |  | 1 |
|  | 7 | 5 |  | 8 | 9 |  |  |  |
|  | 6 | 2 |  |  |  | 3 |  | 4 |
| 5 | 3 |  | $A$ | $B$ | $C$ | $X$ | 1 | 8 |
| 8 |  | 4 |  |  |  | 6 | 2 |  |
|  |  |  | 6 | 5 |  | 9 | 4 |  |
| 4 |  |  | 7 |  |  | $K$ |  | 2 |
|  |  | 7 | 8 |  |  | 5 |  | 3 |

6. A) What are the 3 numbers that must occupy cells $A, B$, and $C$ (not necessarily in that correct order)?
B) As a result of knowing the number in cells $A, B$, and $C$, we can determine the number occupying cell $X$. Cell $X$ is $\qquad$ .
7. Solve the following puzzle.

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

## Sudoku PracticeSolutions

Use the following information to answer the first question.

| 5 |  |  | 9 |  | 3 |  | 6 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 7 | 6 | 1 |  | 4 | 3 | 9 |  |  |
| 9 | 8 |  |  |  |  |  |  |  |
|  |  | 8 |  |  | 6 | 5 | 3 | 9 |
|  |  |  | 2 |  | 5 |  |  |  |
| 6 | 7 | 5 | 3 |  |  | 8 |  |  |
| $B$ |  |  |  |  |  | 1 | 3 |  |
|  | 9 | 4 | 6 |  | 2 | 8 | 7 |  |
|  | 1 |  | 7 | 8 |  | $A^{4}$ | 4 |  |

1. The numbers for cells $A$ and $B$ respectively, are, _ 5 _ and _ $8 \ldots$.

Solution
The missing numbers in this $3 \times 3$ box are 5,6 and 9 .

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

The vertical arrows indicate that 5 cannot be possible in two empty cells.
There is now only one possible cell for
5.

The number for cell $A$ is 5 .

As we look around the $3 \times 3$ box in the lower left hand corner, we see that there are a number of 8 s .


Use the following information to answer the next question.

2. When the upper left $3 \times 3$ box is completed, the numbers is cells $C, D$, and $E$ respectively, are _4_, _2_, and _3_.

## Solution

This $3 \times 3$ box is missing 2, 3, and 4. Scan the numbers that are in different boxes to the right, and below. Are there numbers in any of these rows or columns that can eliminate potential options?


There is only one possible option remaining for the last cell, which is 2.

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

When the upper left $3 \times 3$ box is completed, the numbers is cells $C, D$, and $E$ respectively, are _4_, _2_, and _3_.

Use the puzzle below to answer the next question.

3. The puzzle above identifies the location of 5,9 s. (there are still 4 to be determined). In which $3 \times 3$ box do we currently have enough information to place the next 9 with certainty?
B) Middle
B) Middle Left
C) Lower Middle
D) Lower Right

Solution

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

The correct answer is B, Middle Left.

Use the following puzzle to answer the next question.

| 2 |  | 3 |  |  | 4 | 8 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 |  |  |  |  | 5 |  |  | 1 |
|  | 7 | 5 |  | 8 | 9 |  |  |  |
|  | 6 | 2 | $A$ | $\mathcal{B}$ | $C$ | 3 |  | 4 |
| 5 | 3 |  | $\mathcal{D}$ | $E$ | $F$ |  | 1 | 8 |
| 8 |  | 4 | $G$ | 7 | $I$ | 6 | 2 |  |
|  |  |  | 6 | 5 |  | 9 | 4 |  |
| 4 |  |  | 7 |  |  |  |  | 2 |
|  |  | 7 | 8 |  |  | 5 |  | 3 |

4. There are no numbers given for the middle box; each cell is labelled with ABCDEFGHI. We know for sure that 8 will fill one of these cells. Which one is it?
A) A
B) $B$
C) $C$
D) $D$

Solution

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

The 8 will be placed in cell
C. The correct answer is
C.
5. The number filling cell $K$ below is ___ 1 .


Solution
The column that $K$ is in needs 1 . There is no 1 in the three upper cells, because there is already 1 in each $3 \times 3$ box.

The only spot for 1 is $K$.
$K=1$,

Use the puzzle below to answer the next question.

| 2 |  | 3 |  |  | 4 | 8 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 6 |  |  |  |  | 5 |  |  | 1 |
|  | 7 | 5 |  | 8 | 9 |  |  |  |
|  | 6 | 2 |  |  |  | 3 |  | 4 |
| 5 | 3 |  | $A$ | $\mathcal{B}$ | $C$ | $X$ | 1 | 8 |
| 8 |  | 4 |  |  |  | 6 | 2 |  |
|  |  |  | 6 | 5 |  | 9 | 4 |  |
| 4 |  |  | 7 |  |  | $K$ |  | 2 |
|  |  | 7 | 8 |  |  | 5 |  | 3 |

6. A) What are the 3 numbers that must occupy cells $A, B$ and $C$ (not necessarily in that correct order)?

## Solution

Sometimes a strategy is to group numbers. In the row containing $A B C$, we are missing the numbers 2,4 , and 6 .

B) As a result of knowing the number in cells $A, B$, and $C$, we can determine the number occupying cell $X$. Cell $X$ is __7.

## Solution

The row containing $A B C$, now has the numbers $5,3,2,4,6,1$, and 8 . We are missing 7 and 9.

| 2 |  | 3 |  |  | 4 | 8 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 |  |  |  |  | 5 |  |  | 1 |  |
|  | 7 | 5 |  | 8 | 9 |  |  |  | There can be no 7 in this spot, as there is a 7 already in that column. Cell $\mathrm{X}=7$. |
|  | 6 | 2 | $A$ $B$ $C$ $X$ 1 8 <br> 6 2     <br>       |  |  |  |  |  |  |
| 5 | 3 | 4 |  |  |  |  |  |  |  |
| 8 |  | 4 |  |  |  |  |  |  |  |
|  |  |  | 6 | 5 |  | 9 | 4 |  |  |
| 4 |  |  | 7 |  |  | K |  | 2 |  |
|  |  | 7 | 8 |  |  | 5 |  | 3 |  |

7. Solve the following puzzle.

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

Solution

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

