## Sudoku and KenKen

Sudoku and KenKen are both forms of numbers-based logic puzzles that originated in Japan. Sudoku is an abbreviation of a Japanese phrase that roughly translates to "the numbers (or digits) must remain single." The concept is taken a step further with KenKen, which incorporates simple math into the puzzle. KenKen is Japanese for "square wisdom" or "cleverness squared."
In both games, the size of the grid determines the difficulty level, so Sudoku and KenKen can be enjoyed by all ages. The puzzles can be done by individuals, collaboratively, or-for an extra challenge-played in a timed competition! Both games are also great for older adults looking to exercise their minds, which is known to have measurable health benefits.

## HOW TO PLAY SUDOKU USING A 4X4 GRID:

- Every row, column, and $2 \times 2$ block must contain the numbers 1-4 once.

Example:


| $\downarrow$ | $I$ | $\varepsilon$ | $\tau$ |
| :---: | :---: | :---: | :---: |
| $\varepsilon$ | $\tau$ | $\downarrow$ | $I$ |
| $\tau$ | $\varepsilon$ | $I$ | $\downarrow$ |
| $I$ | $\succ$ | $\tau$ | $\varepsilon$ |

HOW TO PLAY KENKEN USING A 4X4 GRID:

- Every row and column must contain the numbers 1-4 once (as in Sudoku).
- Digits within each heavily outlined group of squares will produce the target number, using addition, subtraction, multiplication, or division as indicated in the box.
- One heavily outlined square is a freebie, just fill in the number you're given.
Example:


| $\tau_{\tau}$ | $\nabla$ | $I$ | $\varepsilon^{\prime}$ |
| :---: | :---: | :---: | :---: |
| $\nabla$ | $\tau_{+9}$ | $\varepsilon_{+L}$ | $I$ |
| $I$ | $\varepsilon^{\prime}$ | $\nabla_{+L}$ | $\tau_{+\varepsilon}$ |
| $\varepsilon_{+8}$ | $I$ | $\tau_{+\varepsilon}$ | $\nabla_{+}$ |


| 4 | 1 |  |  |
| :---: | :---: | :---: | :---: |
|  |  | 1 | 4 |
|  |  | 2 | 3 |
| 3 | 2 |  | 1 |



|  | 1 | 3 |  |
| :---: | :---: | :---: | :---: |
|  |  |  | 1 |
|  |  |  | 3 |
|  | 3 | 4 |  |




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| 3 | 2 | 4 | 1 |
| :---: | :---: | :---: | :---: |
| 1 | 4 | 2 | 3 |
| 2 | 1 | 3 | 4 |
| 4 | 3 | 1 | 2 |

