

## KenKen, a new Puzzle

Escrito por Carlos Simões  
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KenKen is a new numerical logic puzzle from Japan. The name means loosely "cleverness squared." KenKen shares some properties with sudoku. Each is a pure logic challenge in which numbers are filled in the squares of a grid. Unlike sudoku, though, in which the numbers act solely as symbols (letters or pictures would work as well), KenKen requires arithmetic.

The rules are simple: Fill the grid with digits so as not to repeat a digit within any row or column, and so the digits within each heavily outlined box (called a cage) go together using the arithmetic operation shown to make the target number indicated.

Two new KenKen puzzles will be presented in The Times each day from Monday through Saturday. The first is a four-by-four-square puzzle that increases in difficulty from easy to medium as the week progresses. The second is a six-by-six-square puzzle that goes from medium to hard.

KenKen was invented in 2004 by the Japanese educator Tetsuya Miyamoto, who founded and teaches at the Miyamoto Math Classroom in Tokyo. Students attend his class on weekends to improve their math and thinking skills. Mr. Miyamoto said he believes in "the art of teaching without teaching."

He provides the tools for students to learn at their own pace using their own trial-and-error methods. If these tools are engaging enough, he said, students are more motivated and learn better than they would through formal instruction.

About 90 minutes of class time each week is set aside for solving puzzles, usually designed by Mr. Miyamoto. The most popular one has been KenKen.

Given Mr. Miyamoto's philosophy of not instructing, one hesitates to offer advice for solving KenKen, but here are some starting tips:

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- Fill in any single-square cages immediately.

-Look for cages whose target numbers are unusually high or low for their number of squares. Often these have unique answers. For example, in a six-by-six puzzle, two squares with a sum of 11 must be filled with 5 and 6, in some order. Three squares with a product of 10 must be 1, 2 and 5.

- Remember that cages can repeat numbers, as long as the numbers do not appear in the same row or column. For example, a three-square L-shaped piece with a sum of 6 could be filled with 1, 2 and 3 or 1, 1 and 4 (with the 4 in the middle square of the L).

-Note that the order of the numbers in cages with subtraction and division doesn't matter.

-Don't forget that each row and column must contain every digit. When you have exhausted arithmetic, use sudoku logic.

{youtube}eik2syOmwSM{/youtube}

And now you're on your own. [Click here to play KenKen Online](#) .