



v1.01

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KenKen Zone is a number-logic puzzle game for the HP Prime, combining Latin-square rules with arithmetic cage constraints.

Each game generates a fresh puzzle for the selected board size and difficulty level, with a unique solution.

Key Features:

- Puzzle generation with cages of up to 5 cells,
- Board sizes from 3×3 to 9×9,
- Four difficulty levels: EASY, MEDIUM, HARD and EXPERT,
- Automatic filling of single-cell cages,
- Duplicate-number highlighting within rows and columns,
- Saving/restoring the last-used board size and difficulty settings,
- Optional game timer,
- Solution reveal option,
- Keyboard and touchscreen controls,
- Smooth animated interface.



On the title screen, use **Up/Down** keys or the touchscreen to select an option. For **Size** and **Mode**, use **Left/Right** to change the setting, or tap the corresponding arrows on the touchscreen. You can also select the board size directly with keys 3–9, and choose the difficulty with **E**, **M**, **H** or **X** for **E**asy, **M**edium, **H**ard or **E**xpert. Press **Enter** or tap **Start Game** to begin, or press **Esc** to exit the app.

The selected board size and difficulty are saved on exit and restored automatically the next time the app is launched.

Difficulty levels:

- **EASY** – Beginner-friendly puzzles with more direct clues and simpler deductions. Available for board sizes from 3×3 to 9×9.
- **MEDIUM** – A balanced challenge with fewer obvious moves and more deduction required. Available from 3×3 to 9×9.
- **HARD** – More demanding puzzles requiring careful use of both cage clues and row/column logic. Available from 4×4 to 9×9.
- **EXPERT** – The toughest puzzles, intended for experienced players looking for a serious challenge. Available from 5×5 to 9×9.

How to play:

Fill every cell of the grid with a number from 1 to the board size. Each number may appear only once in every row and column. For example, a 6×6 puzzle uses the numbers 1 through 6, with each number appearing exactly once in each row and column.

The grid is divided into groups of cells called cages. Each cage has a target number and, in most cases, an arithmetic symbol.

The values placed inside the cage must combine to produce that target using the indicated operation: addition (+), subtraction (-), multiplication (×) or division (/). Subtraction and division cages contain two cells; the order of the numbers does not matter – use their difference or divide the larger number by the smaller one.

Single-cell cages contain a fixed value instead of an arithmetic clue. They are filled in automatically as soon as the puzzle starts, giving you immediate starting points for solving the grid.

If the same number appears more than once in a row or column, red markers are shown next to the conflicting values. They disappear once the conflict is resolved. This only indicates a row or column duplicate – it does not tell you whether a number satisfies its cage or belongs to the final solution.



The row, column and cage rules work together. A number that has already been used in a row or column can be eliminated from the other cells in that line, while the arithmetic clue limits the combinations possible inside its cage. As more values are determined, these restrictions narrow down the possibilities in neighboring cages and rows or columns – often allowing one deduction to lead to another.

The puzzle is solved when every cell contains the correct value and the completed grid satisfies all row, column and cage constraints.

24x	6	4	1	3	2	5	KenKen Zone LEVEL EXPERT 03:58 M S PUZZLE SOLVED! CAGES 2-cell: 7 3-cell: 3 4-cell: 2 5-cell: 1 Esc: Exit
15x	1	2	5	6	3	4	
	3	5	6	2	4	1	
40x	4	6	2	5	1	3	
	5	3	4	1	6	2	
	2	1	3	4	5	6	

Controls:

- **Arrow keys** – move the cursor around the grid,
- **Touchscreen** – tap a cell to select it,
- **1-9** – enter a number in the selected cell,
- **0, Backspace** – clear the selected cell,
- **View** – show or hide the timer (hidden by default),
- **Esc** – open the End Game menu.

End Game menu:

Press **Esc** during a game to open the End Game menu:

- **Reveal** – reveal the complete solution and end the game,
- **Exit** – end the game and return to the title screen,
- **Cancel** – close the menu and continue playing.

24x	6	4.	1	3	5.	4.	KenKen Zone LEVEL EXPERT 01:53 M S CAGES 2-cell: 7 3-cell: 3 4-cell: 2 5-cell: 1 View: Time Esc: Exit
15x						2.	
	5	4.	6			2.	
	2	1	3	4	5.	6	

End game?

Reveal
Exit
Cancel

Exit to title screen

Use the touchscreen or **Left/Right** to select an option and **Enter** to confirm. Press **Esc** to cancel and return to the puzzle.

When **Reveal** is selected, the complete solution is shown. Numbers you entered correctly are shown in green. Solution values for cells that were empty or contained an incorrect entry are shown in black; in the latter case, your original incorrect value is preserved as a small red marker in the corner of the cell. The elapsed time is also displayed automatically.

24x	6	4	1	3	2	5	KenKen Zone
15x	1	2	5	6	3	4	LEVEL EXPERT
7+	3	5	6	2	4	1	03:14
8+	4	6	2	5	1	3	M S
40x	5	3	4	1	6	2	CAGES
13+	2	1	3	4	5	6	2-cell: 7
12x							3-cell: 3
7+							4-cell: 2
1-							5-cell: 1
							Esc: Exit

Behind the scenes:

KenKen Zone is implemented in Python, with only a few small PPL calls for calculator-specific setup. Puzzles are generated directly on the calculator rather than selected from a fixed set. The generator first creates a valid Latin-square solution, divides the board into connected cages of up to five cells, and assigns arithmetic clues to them.

Each generated puzzle is then evaluated by a logic solver to determine its difficulty. If necessary, the generator can modify cage rules or boundaries and evaluate the puzzle again until it matches the selected difficulty level. Puzzles that are not fully proven by logical deduction are additionally checked for uniqueness before being accepted.

Version history:

- **1.00 (2026-09-16)**
 - Initial release
- **1.01 (2026-09-19)**
 - Improved Reveal Solution feedback: correctly entered values are now highlighted in green.
 - Renamed Mode to Level throughout the interface for clearer terminology.
 - Redesigned the PUZZLE SOLVED! message with a darker green panel and white text for better contrast.
 - Minor rendering and interface optimizations.