MONTH 7

Numerical Logic: KenKen & Magic Squares

Monthly Learning Goals

Month 7 develops numerical reasoning through KenKen puzzles and magic squares. Students use arithmetic relationships, logical deduction, and constraint-based thinking to determine which numbers can - and cannot - occupy each space.

The activities progress from accessible 3 x 3 puzzles to more demanding 5 x 5 grids and larger magic squares. Throughout the month, students are encouraged to test possibilities systematically, revise their thinking, and explain how each clue supports a conclusion.

By the End of This Month, Students Should Be Able To:

- Apply addition, subtraction, multiplication, and division within a logic puzzle.
- Use row, column, region, and sum constraints to eliminate possibilities.
- Organize trial-and-error work without guessing randomly.
- Recognize numerical relationships and repeated structures.
- Check whether a completed grid satisfies every condition.
- Explain a logical sequence of steps clearly.
- Persist through increasingly complex multi-step challenges.

Skills We Will Practice

Arithmetic Fluency
Using all four operations accurately and flexibly.

Constraint Reasoning
Identifying values that satisfy several conditions at once.

Systematic Deduction
Eliminating impossible choices and recording useful conclusions.

Pattern Recognition
Noticing number relationships across rows, columns, and regions.

Verification
Checking that every clue and required sum has been satisfied.

This Month's Activities

- Introductory 3 x 3 KenKen puzzles
- Mixed-operation KenKen challenges
- Progressive 5 x 5 KenKen puzzles
- Challenging multi-operation grid
- 3 x 3 magic-square practice
- Advanced 5 x 5 magic squares

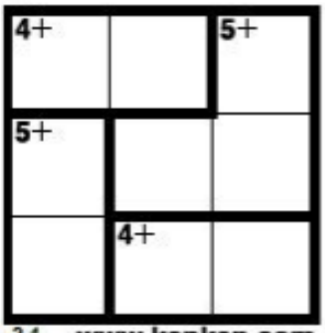
Connection to the Rest of the Year

Month 7 builds on earlier work with patterns, arithmetic, and logic while asking students to coordinate several clues at once. These habits support future work in combinatorics, probability, algebra, and competition-style problem solving.

KENKEN CLASSROOM
Puzzles That Make You Smarter.

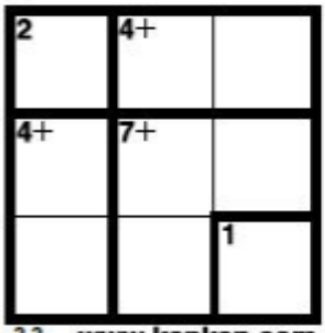
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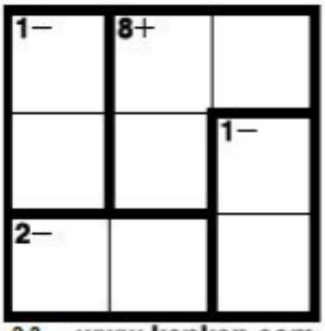
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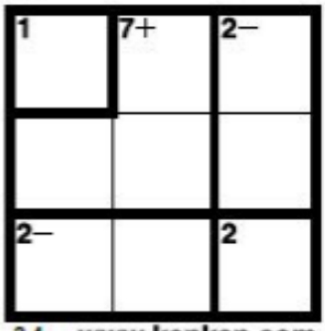
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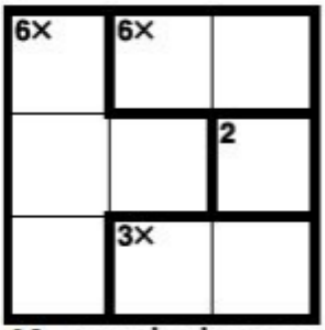
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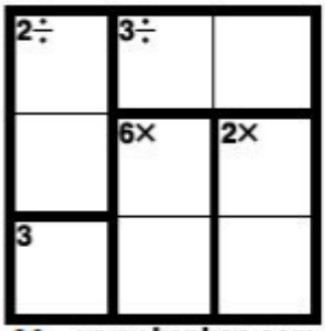
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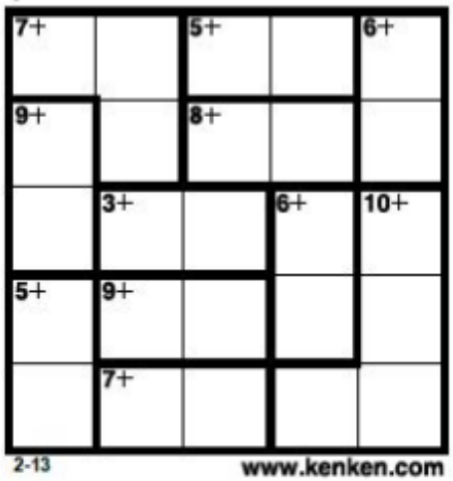


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Puzzles That Make You Smarter.

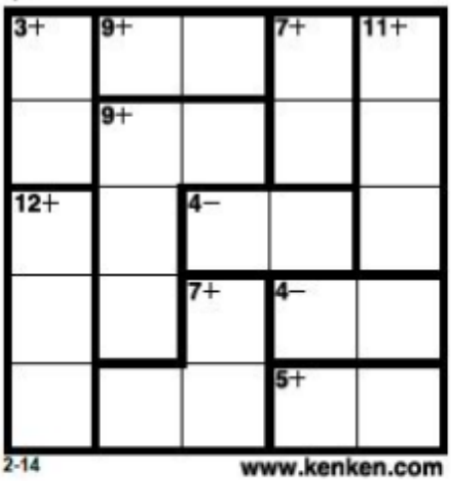
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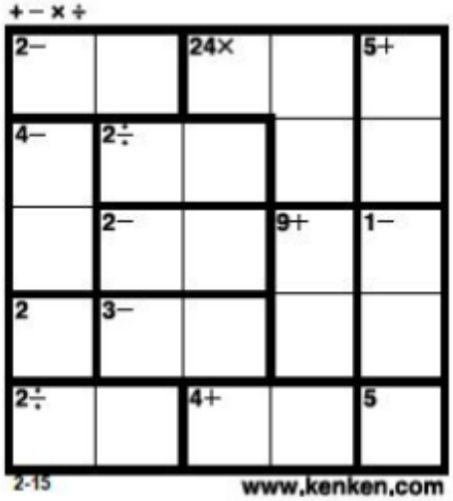
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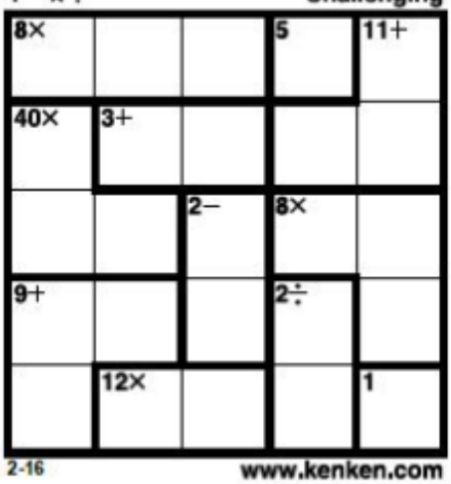
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+ − × ÷ Challenging



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Magic Squares

Fill out the missing numbers to complete the magic squares

1) The sum is 15.

	9	4
7		
	1	

2) The sum is 33.

13		
15	11	
	19	

3) The sum is 45.

	9	12
	15	27

4) The sum is 60.

21		23
17		19

1) The sum is 75.

	25	15
10	45	

2) The sum is 42.

		11
		8
	2	

3) The sum is 36.

9		
		10
		15

4) The sum is 150.

20	70	
	30	



Magic Squares

Name: _____ Date: _____

Fill in grids so that each column, row and diagonal add up to the given sum.

The sum is 65.

11	10			17
18	12	6		24
25		13	7	
	21		14	
	3		16	

The sum is 195.

51	72	3	24	
			42	
	18		60	66
30		57	63	9
33	54			

The sum is 260.

68	96		32	60
				64
16		52		
40	48		84	12
44	72			36

The sum is 65.

9		25	18	
3				
22	20	13		
16	14	7	5	
	8	1	24	

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