MSO Sudoku & KenKen 2022

The MSO Sudoku & KenKen competition consists of 4 sections. There are a total of 30 problems, each with an associated mark. You must complete the problem 100% correct to earn the marks – no partial marks will be awarded for partially correct solutions.

Harder problems are in general worth more marks, however there is no guarantee that a 30 mark problem in one section is harder than a 20 mark problem in another.

Classic

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box.

Points:

01 - 15 points
02 - 15 points
03 - 25 points
04 - 25 points
05 - 40 points
06 - 40 points
07 - 60 points
08 - 60 points

Diagonal

Also known as X-Sudoku. Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column and 3x3 outlined box. Each main diagonal contains each digit from 1 to 9.

Points:

01 - 15 points
02 - 15 points
03 - 25 points
04 - 25 points
05 - 35 points
06 - 35 points

Killer

Place a digit from 1 to 9 into each of the empty cells so that each digit appears exactly once in each row, column, 3x3 outlined box and cage. The number at the top-left corner of each cage equals the sum of digits inside the cage. Digits do not repeat inside a cage.

Points:

01 - 15 points
02 - 15 points
03 - 30 points
04 - 30 points
05 - 45 points
06 - 45 points
07 - 60 points
08 - 60 points

KenKen

Place a digit from 1 to N into each cell in the N by N grid so that each digit appears exactly once in each row and column. The numbers in each cage must combine (in any order) to produce the target number in the top corner using the mathematic operation indicated (+, -, ×, /). Digits can repeat within a cage. The puzzles range from N=6 to N=9.

Points:

01 - 15 points
02 - 15 points
03 - 30 points
04 - 30 points
05 - 45 points
06 - 45 points
07 - 55 points
08 - 55 points

Classic

Problem 1

		1						8
9			7		5	4		
	7						2	
6	9			3				1
	4						8	
				6	8			
						2	5	
		5	2		9			
8			3		6			9

Problem 2

			8			7	6	
		8						
		2			6			
	7						5	
	1				9	2		
			2		8	9		4
3								9
				5		3		
			7				1	5

Classic

Problem 3

								3
		1	8				7	
5				1				
6	9		5					
		2			6	8		
	1				9			2
8		5	4	9				
	3				5	7		
					8	2		

Problem 4

			5					2
		7	3				8	
6				7				
5	9		6					
		4				3		
	7				9			4
3		6	1	9				
	2				6	8		
						4	1	

Classic

Problem 5

8								
			2	1			6	
	9			4		7	2	5
5	7	6		9				
			7				9	
					2			
2	4		9					3
			4	5		8		
		8					4	9

Problem 6

			1					
	4						6	
7			5					8
		2		3				4
8	7				1	2		
		9						1
6							3	
		3	8		7	1		
1			9			5		

Classic

Problem 7

	9	5						
						4	1	
1	7		6					
	2			5	8			
				9				2
	8		2				7	
		9		4	6		8	
8	6				3			1
				8		3		

Problem 8

	7	6				5		
						1	9	
9	8		5					
				6		9		
				7				4
	3		4				8	
		7		1	5		3	
3	5				2			9
				3		2		

Diagonal

Problem 1

			4					
						8		4
			8					2
	8			3		4		5
1	3							8
	6	4					3	
	1		9					3
	9		3	2				
			1		4			6

Problem 2

		4		1		7	9	
				5	9	8		4
		1	4					
6				3	2	9		
		8				5		7
				4	8			
			6			4		
					5			
8				2				

Diagonal

Problem 3

	1							2
4			9	2				
	5	2			3	1		
5		9		7				
		6		4		5	9	
2			3					8
				1	9			
1				8				
						9		

Problem 4

	3							8
9			2	8				
	6	8			5	3		
6		2		1				
		4		9		6	2	
8	9		5					7
				3	2			
				7				
						2		

Diagonal

Problem 5

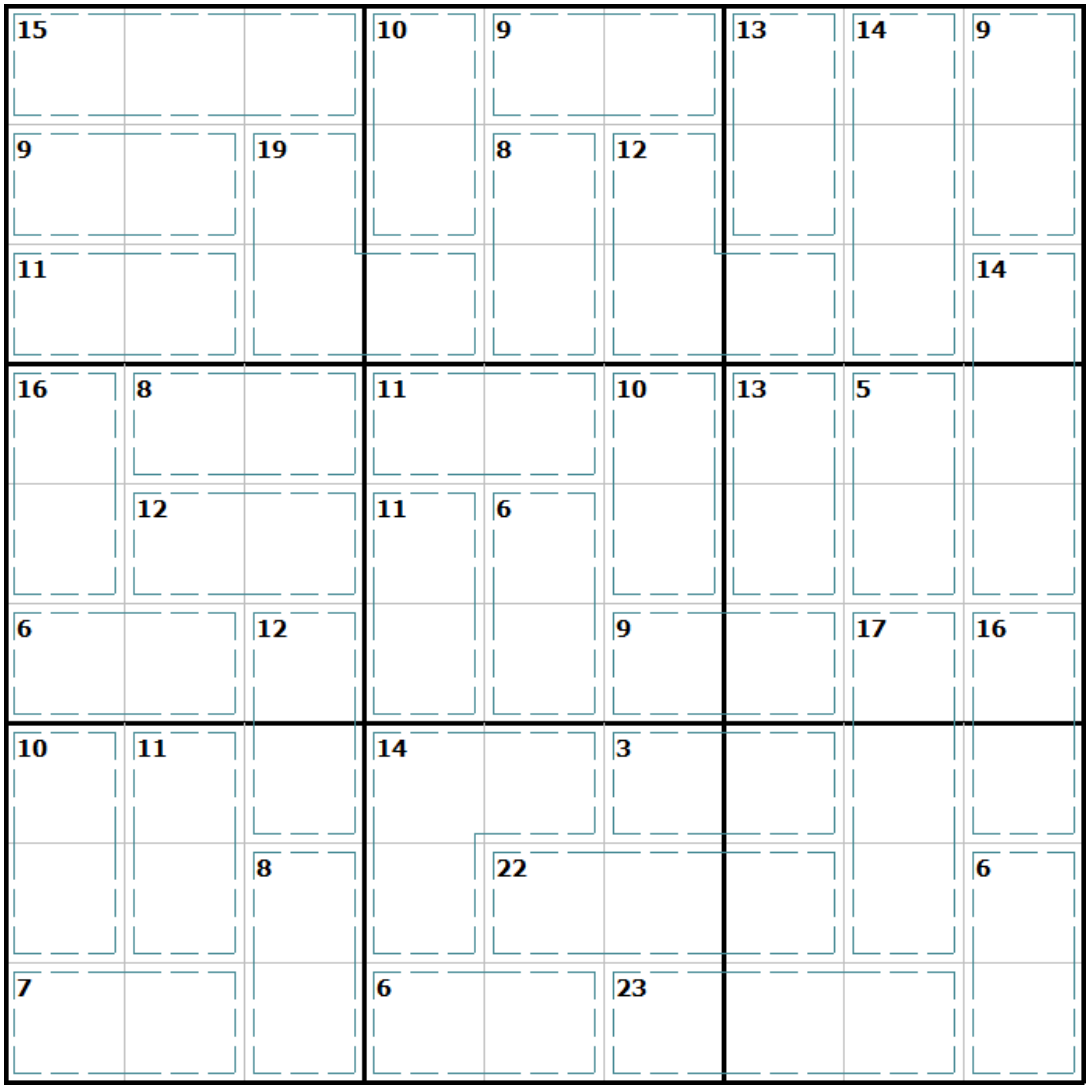
								7
	3			5	9			
		1	5			4		9
		5			2		7	1
						2		
		9	3		6			5
3	8			9		6	2	
		6			4			

Problem 6

					7			
			1		8	7		
9				4	6	1		
		5	8					
		8		3		2		
3		2		1		8		5
								9
					1			
8	3	6		9				

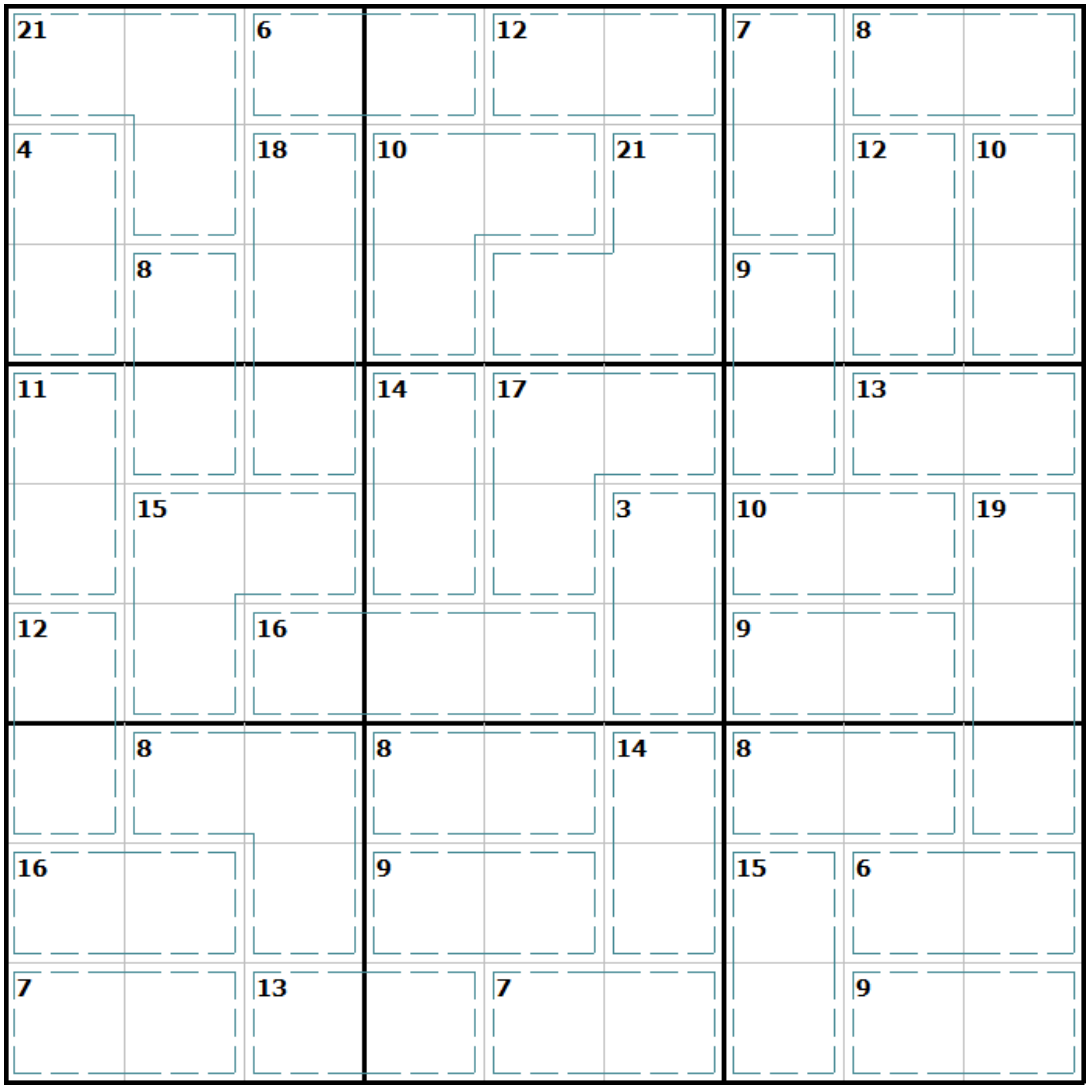
Killer

Problem 1



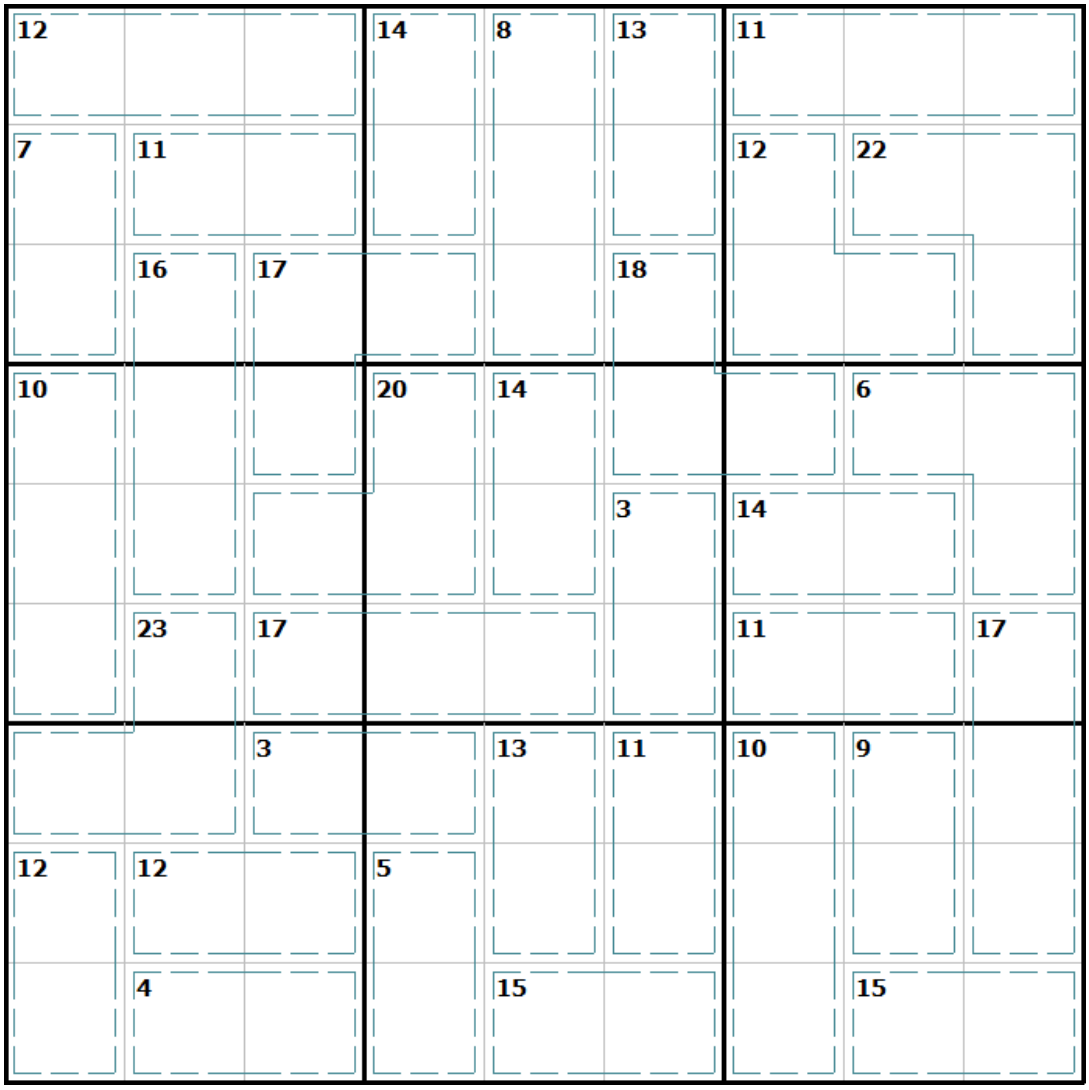
Killer

Problem 2



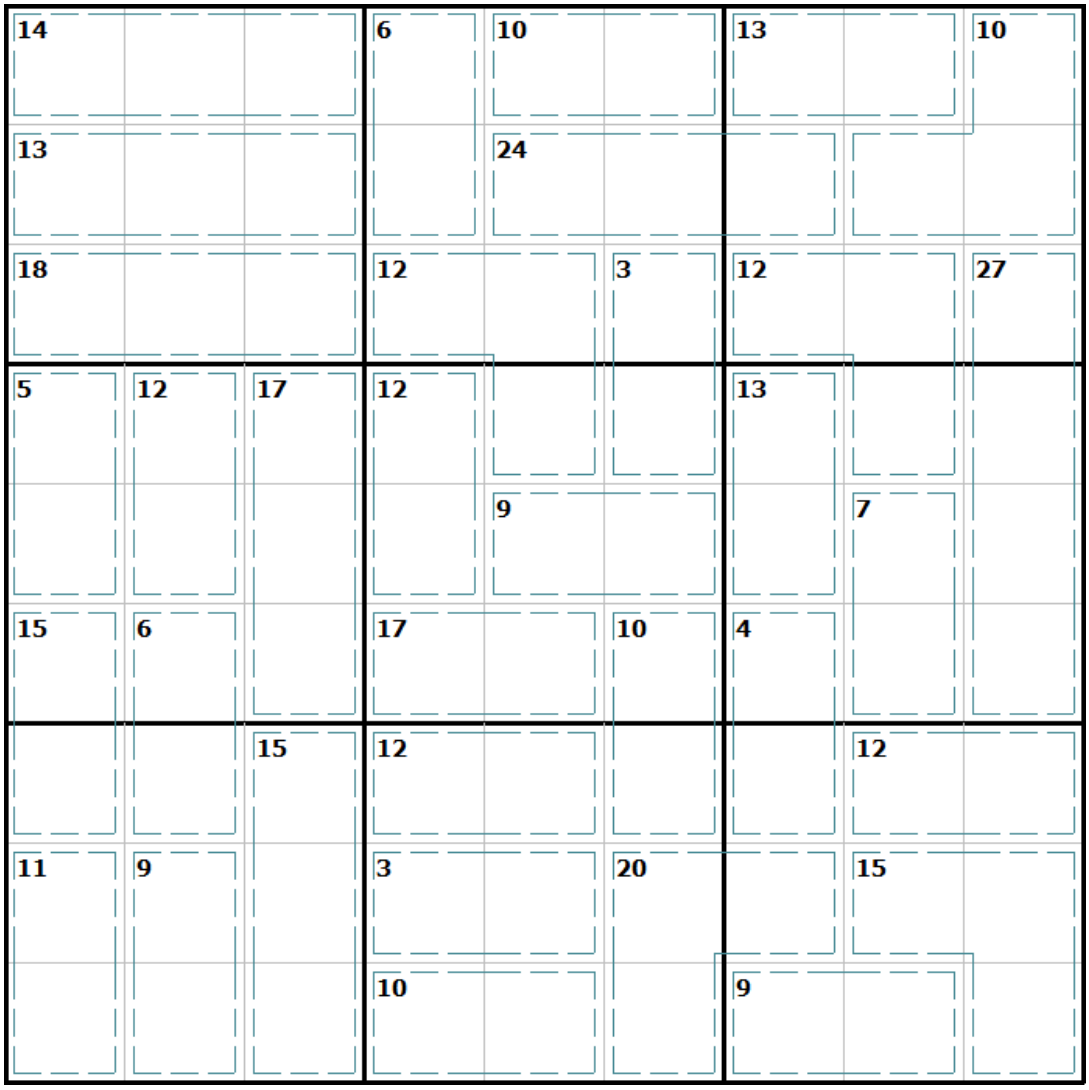
Killer

Problem 3



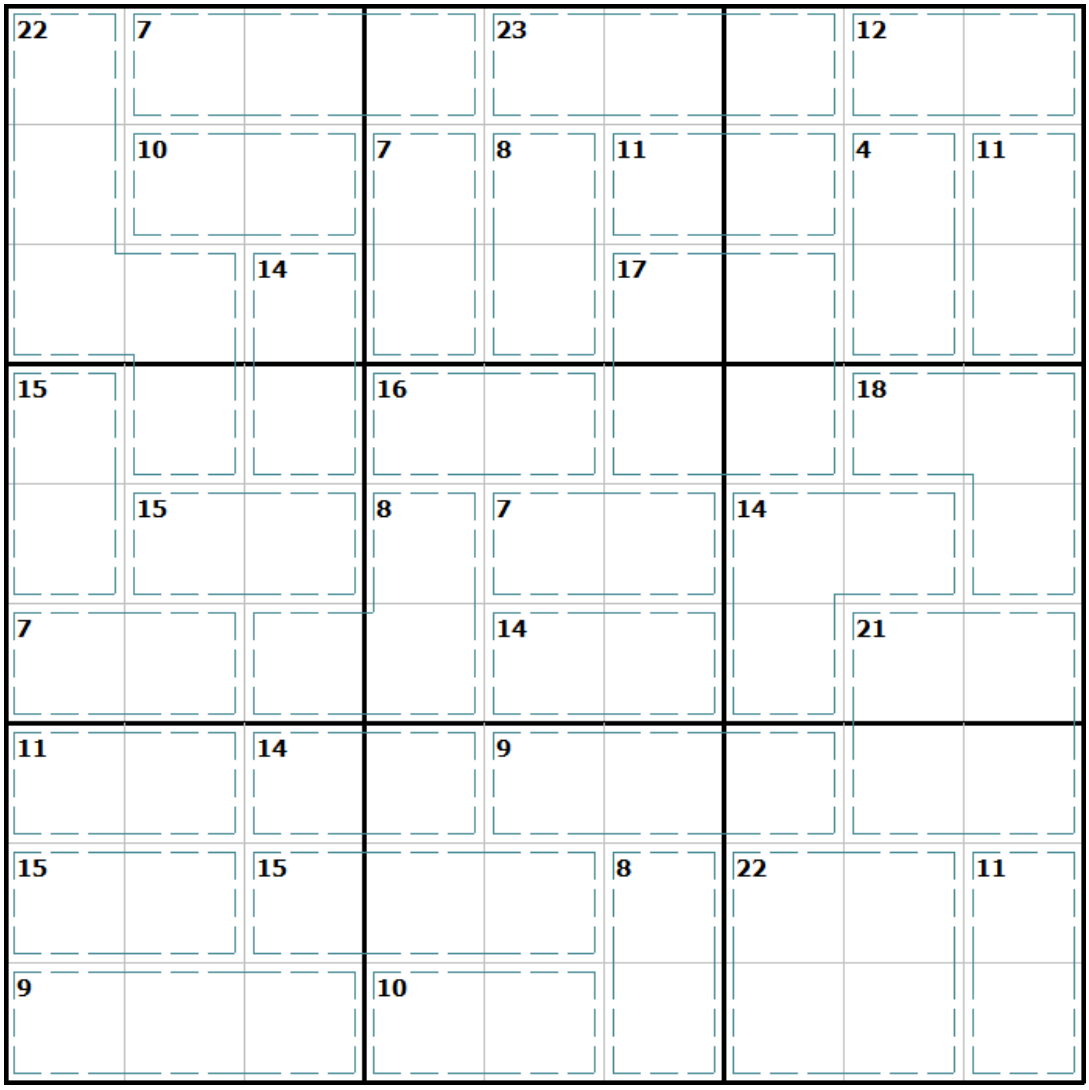
Killer

Problem 4



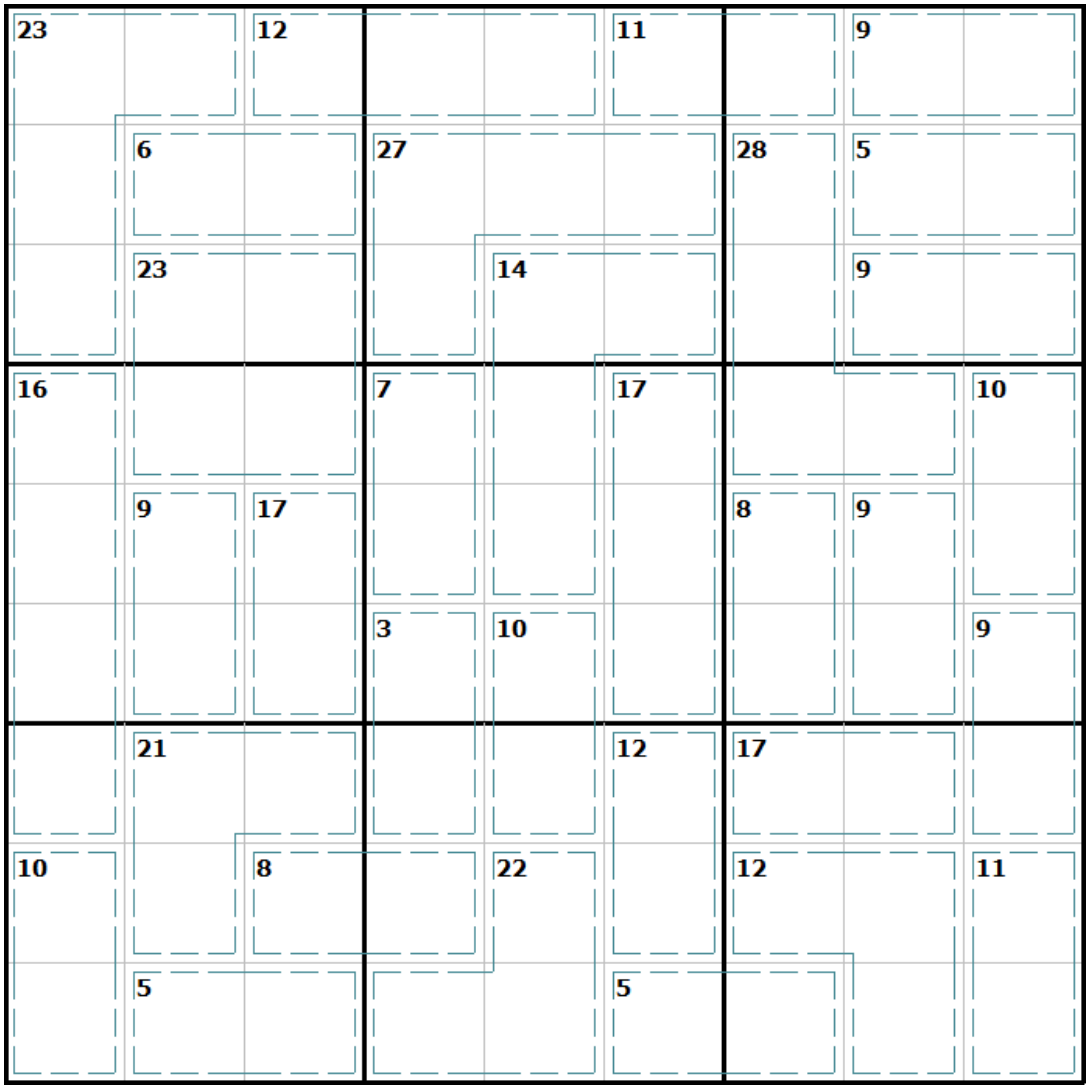
Killer

Problem 5



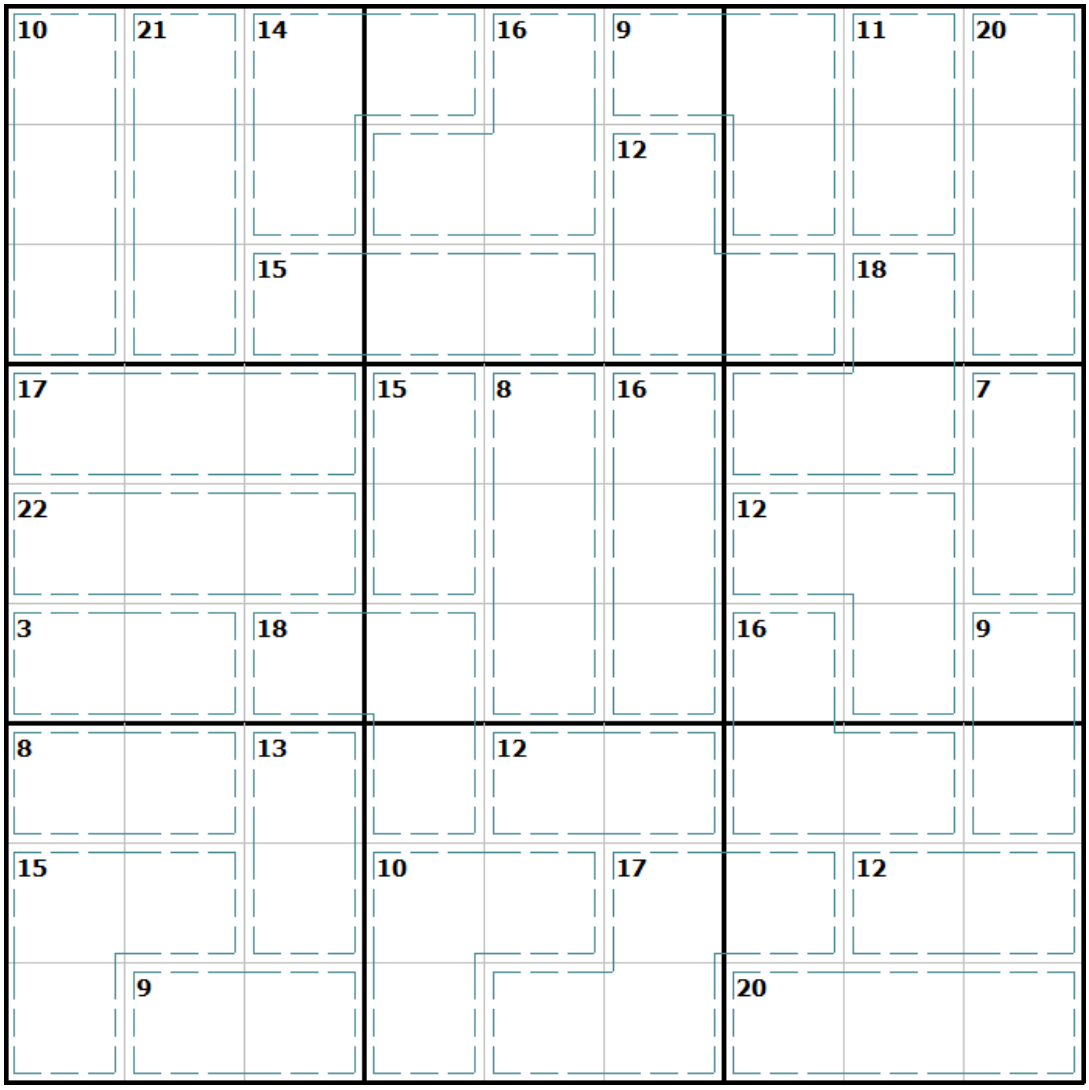
Killer

Problem 6



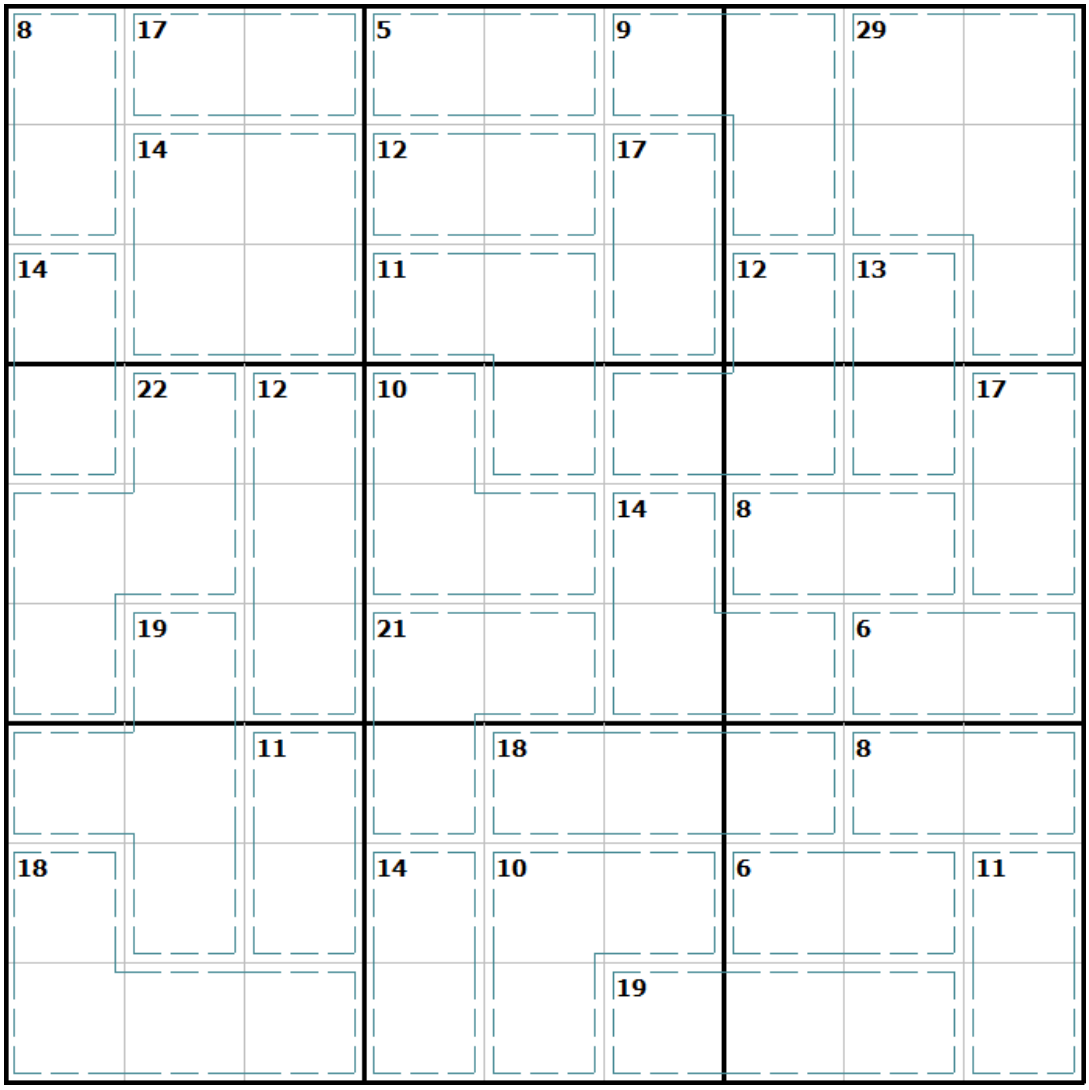
Killer

Problem 7



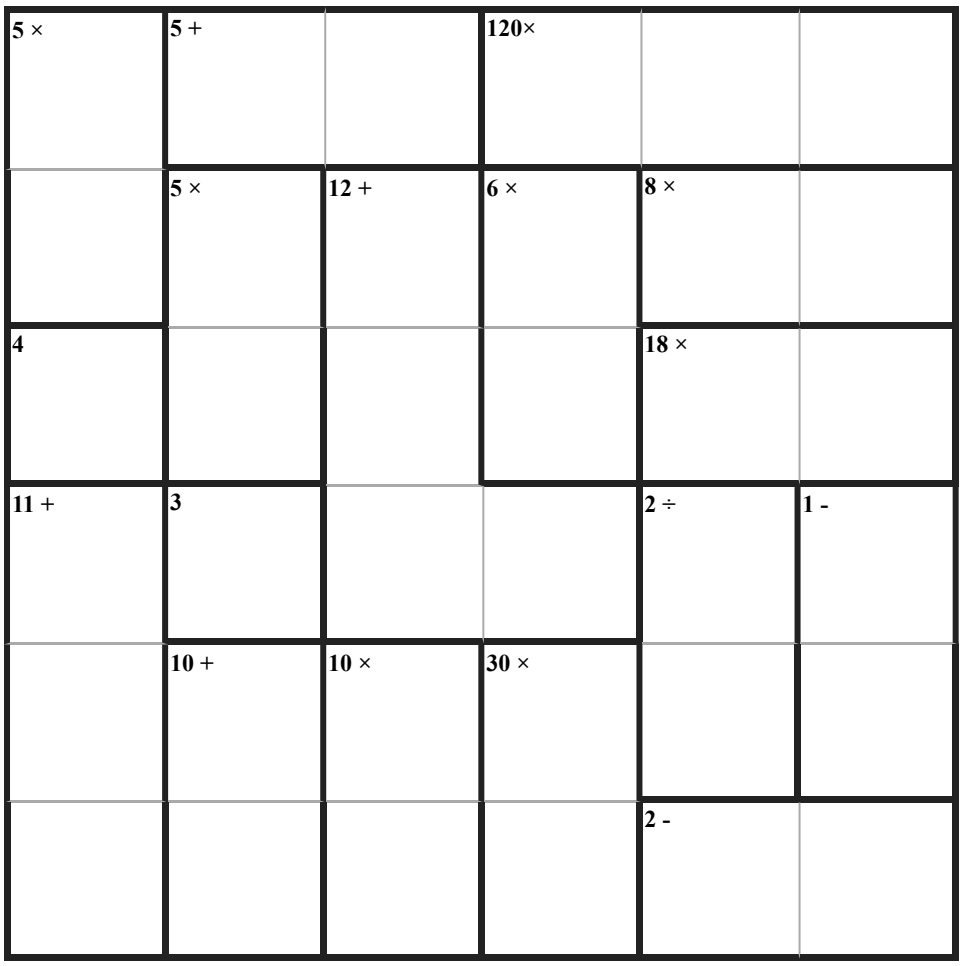
Killer

Problem 8

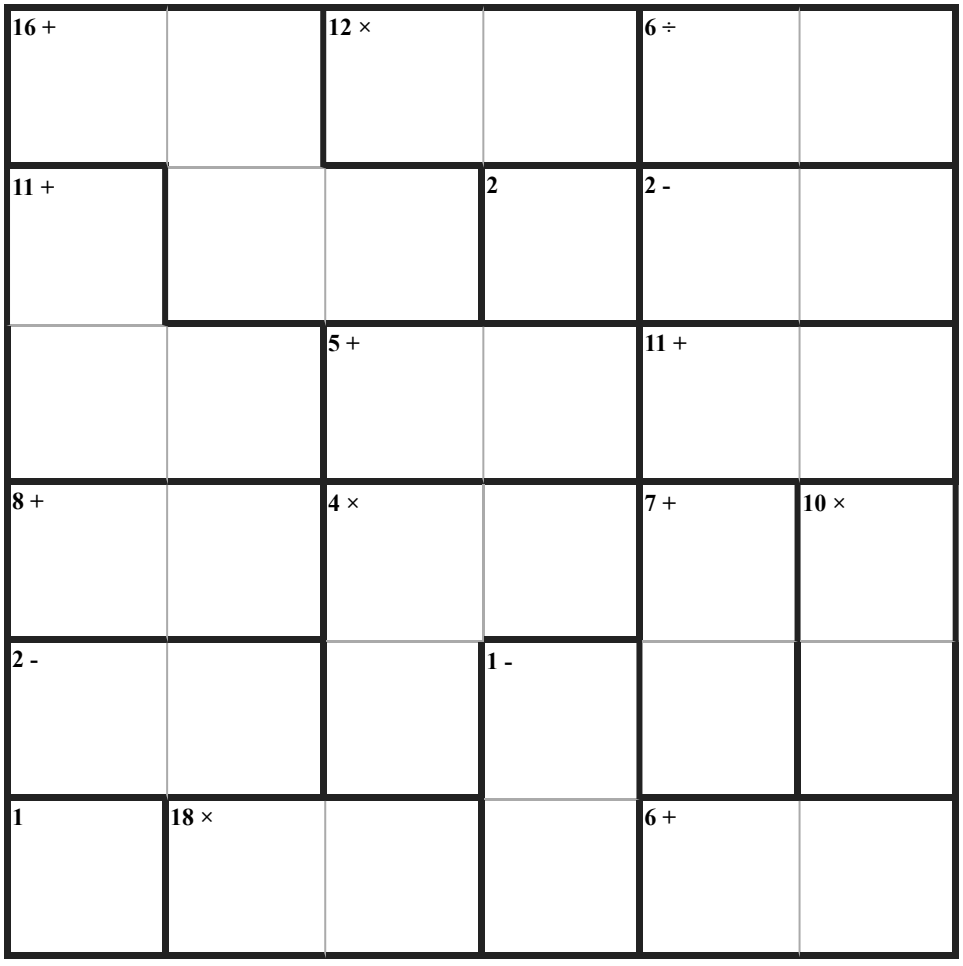


KenKen

Problem 1



Problem 2



KenKen

Problem 3

1 -	40 ×		7	18 +		7 ×
		30 ×			8 +	
10 +	4 +		1 -	9 +		4
		4 +			11 +	
9 +			6	12 +		
5 ÷	13 +		14 +	7 +		5 +
	11 +					

Problem 4

1 -		9 +		5 -	12 +	3 ÷
2 ÷	1	24 ×				
	13 +		2 ÷		15 ×	
13 +	7	5	2 -		2 ÷	
	15 ×	5 +	1 -	6 ÷	8 +	
7 +					4 ÷	42 ×
	1 -		2 -			

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Problem 5

1 -		7 -	15 ×	15 +		1 -	2
3 ÷				7 +	15 +		1
24 ×	21 +	4 -				3 -	
						2 ÷	
11 +	2	1 -		3 +	3 -	720×	
	11 +	7 +	2 ÷				
7 ÷				5	20 +	3 ×	40 ×
	9 +						

Problem 6

7 +	4 ÷	336×		21 ×	96 ×		10 ×
			20 ×			15 ×	
35 ×	8			2			3 -
	1 -		3 ÷	224×			
144×	180×			5 ÷			
			20 ×		21 ×	8 ÷	
5 +			21 ×	14 +		224×	
	5 ÷				10 +		

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Problem 7

8 ÷		3 -	30 ×		1 -		24 ×	7
10 ×				56 ×		63 ×		
3 -		20 +		22 +			2 ÷	
17 +					48 ×		2	8 +
	5 ÷		28 ×		17 +		72 ×	
	9 +		6 ÷					24 ×
5 -	2 -	21 ×	5 ×		2	24 ×		
			14 +	16 +	8 +		1 -	
3 ÷					6		4 -	

Problem 8

24 ×	15 +		14 ×			12 ×	18 +	
		2 -	3 ÷	24 +				5 -
2 ÷					840×			
8 -		1 -		36 ×	14 +			3
27 +					315×		3 +	
16 ×		12 ×			10 +		2 -	
12 +		2 ×	18 +			6 -		288×
21 ×				9 +	9 ×	1	36 ×	
30 ×		9						