

Sudoku Xtra™ 22

January 2013

>> The Logic Puzzle Brain Workout

All puzzles by Dr Gareth Moore except where otherwise credited

For back issues and subscriptions, visit www.SudokuXtra.com

Packed with
Puzzles!

>> Tents

Full instructions on page 2.

																			●	
		●	●			●			●	●			●		●					5
																		●	●	1
						●														
	●				●				●					●		●			●	3
●				●	●				●				●						●	4
		●								●				●	●			●		4
														●						4
	●				●				●					●				●		
						●								●						5
●				●		●	●					●			●				●	4
										●										1
	●					●			●				●		●	●				
										●									●	
●				●			●													5
										●				●				●	●	3
				●					●										●	3
		●					●		●					●					●	4
				●		●								●						
3	2			5			2					7		5	3			7		

2 Sudoku Xtra

Welcome to **Sudoku Xtra 22**, featuring 144 varied logic puzzles of a wide range of types, with a particular focus on Sudoku variants. All of the puzzles are language-neutral and have a unique solution which can be found via sensible logical deduction, with guessing never required.

This issue I've kept most of the new Sudoku variants introduced in issues 20 and 21 but I've added in some more variants, including **No Donkey Step Sudoku**, **Diagonal Sudoku**, **Product Little Killer**, **Minus Sudoku**, and **Killer Sudoku Pro Zero**. Popular variants that are back this issue include **Sudoku XV**, **Kropki Sudoku**, **Consecutive Sudoku** and others. Meanwhile I've introduced some new logical puzzles types to the magazine, with **Tren**, **Corral** and **Sheep and Wolves in Fences** puzzles being introduced this issue, along with the giant cover **Tents** puzzle.

If there's anything you'd like to see in a future issue, just let me know - for example recently **Inequality Sudoku** returned following requests on the www.SudokuXtra.com forum. There are also links on the website to other issues, as well as details of how to subscribe to the PDF version. All issues are also on all Amazon stores worldwide.

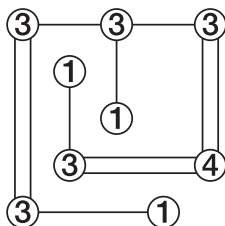
Dr Gareth Moore

gareth@sudokuxtra.com

>> Hashi

Join circled numbers with horizontal or vertical lines.

- > Each number must have as many lines connected to it as specified by its value.
- > No more than two lines may join any pair of numbers.
- > No lines may cross.
- > The finished layout must allow you to travel from any number to any other number just by following one or more lines.

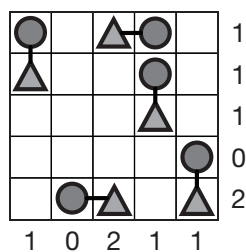


>> Cover Puzzle

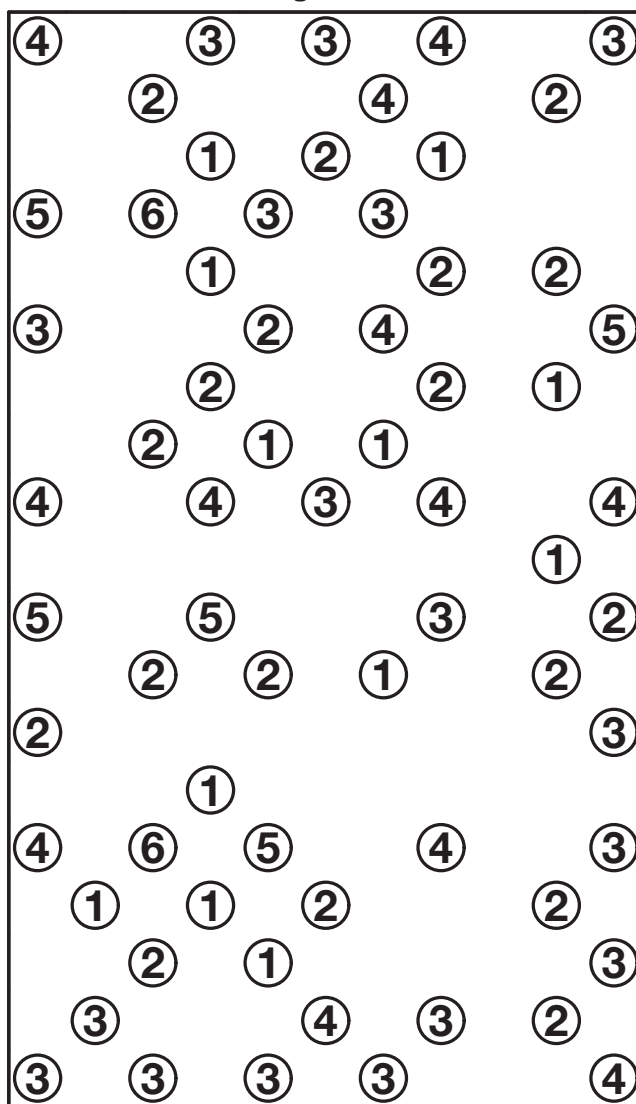
>> Tents

Tie a tent to each tree (shaded circle), such that no tents touch.

- > Numbers at the end of some rows and columns reveal the number of tents in that row or column.



- > Tents must be edge-adjacent to trees, and two tents cannot share an edge. (In this context, an 'edge' is a neighbouring grid line).



Sudoku Xtra 3

		0			0		
				1	1		
1	3		2				
						0	2
			1			1	
3		3					
		1			2		0
		1	0	3			0

0		0			4			
3					1			
	1					0		2
	0					3		
		3	3	4				
					4			
	2							2
2				3			2	
	0			0				1
0				3				

>> Tren

Draw 1x2 and 1x3 rectangular blocks along the grid lines such that each number is contained in exactly one block.

- > The number in each block reveals the total count of spaces the block can slide into in the direction it 'points' (the direction of its longest side).
- > See the example solution below to understand how this works. For example consider the 2 in the top row – it can move into 2 spaces. Meanwhile, the 0 at the bottom-right cannot move into any spaces; the spaces above it do not count because it does not 'point' this way.

				2	3		
		1					
	0						
0		0	2	1			
		1					
							0

The next **Sudoku Xtra**, issue 23, is due out in March 2013. Issues are available immediately on www.SudokuXtra.com (download), then on Amazon (printed) in the following days.

The latest download or pre-printed links are always available at www.SudokuXtra.com/magazines.php

4 Sudoku Xtra

⁹⁺ 2	^{18×} 6	3	⁰⁻ 5	1	4
3	^{4÷} 4	1	⁵⁺ 2	^{30×} 6	⁶⁺ 5
4	⁴⁻ 2	6	3	5	1
⁴⁻ 1	²⁻ 5	^{8×} 2	²⁻ 6	4	¹⁻ 3
5	3	4	³⁺ 1	2	6
¹²⁺ 6	1	5	⁷⁺ 4	3	2

>> Calcudoku

Place the numbers 1 to 6 (or 1 to 8) once each into every row and column of the grid, while obeying the Calcudoku region totals.

- > The value at the top-left of each bold-lined region must be obtained when all of the numbers in that region have the given operation (+, -, ×, ÷) applied between them. For - and ÷ operations start with the largest number in the region and then subtract or divide by the other numbers.
- > Remember that you **can** repeat a number within a bold-lined region, unlike in Killer Sudoku, so long as you obey the row/column restraints.

11+		6+		1-	5÷
1-		36×			
3-	0-			12+	2-
		10+			
4-	5×			30×	
		1-		12×	

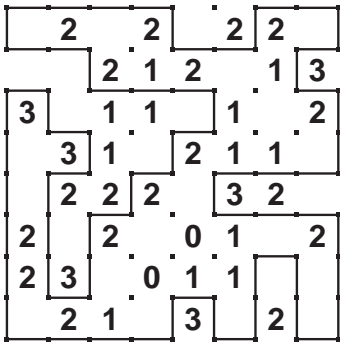
2÷			4÷	20×	24×
3-	90×				
		7+			
10+		5×		15+	12×
	1-	12×			
			2-		

4+	9+		8+	2÷	
	11+			12×	6×
10×					
8×	108×		0-	4×	
		3×			7+
6÷			20×		

252×	17+			3÷	12+		
		8×			10+	240×	
7-		20+	12×				
8+				6+		7+	
10+		16×		19+		5+	
8×	3÷		35×			1-	
			6÷	56×		30×	
12+				336×			

15+		8+	11+		3×		12×
1-	3-		1÷			2÷	
		6+		1344×			2×
	42×				13+		
3-	4-				28×		19+
	36×			9+		16×	
5×		12+			30×		
	10+		18×			3-	

Sudoku Xtra 5

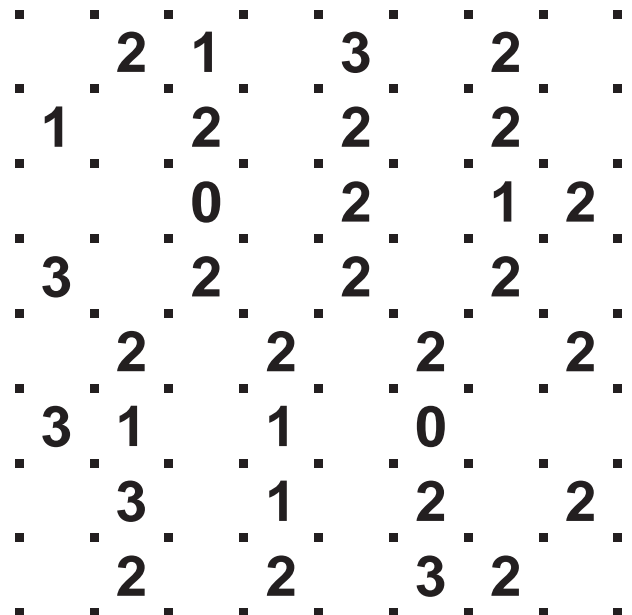
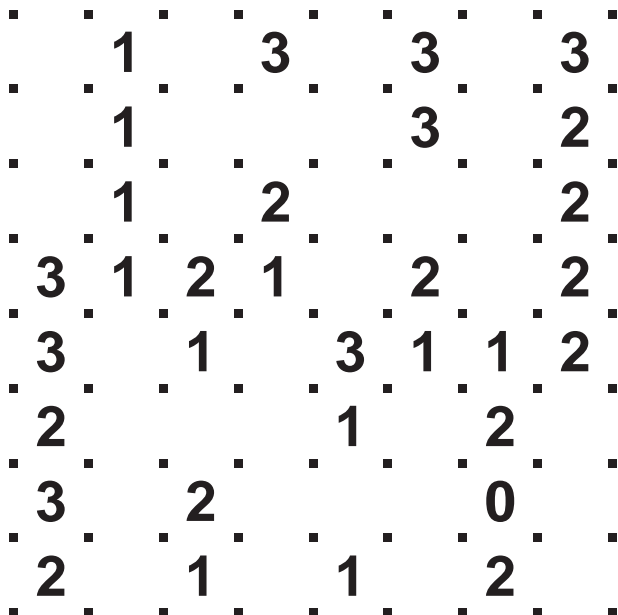
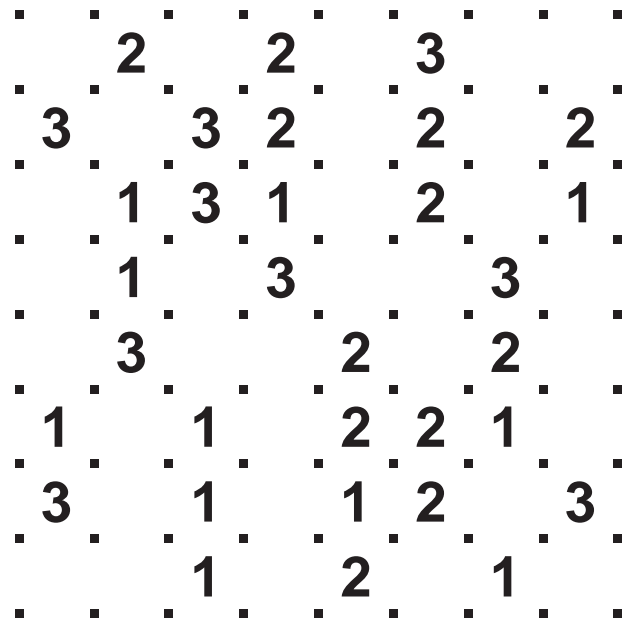
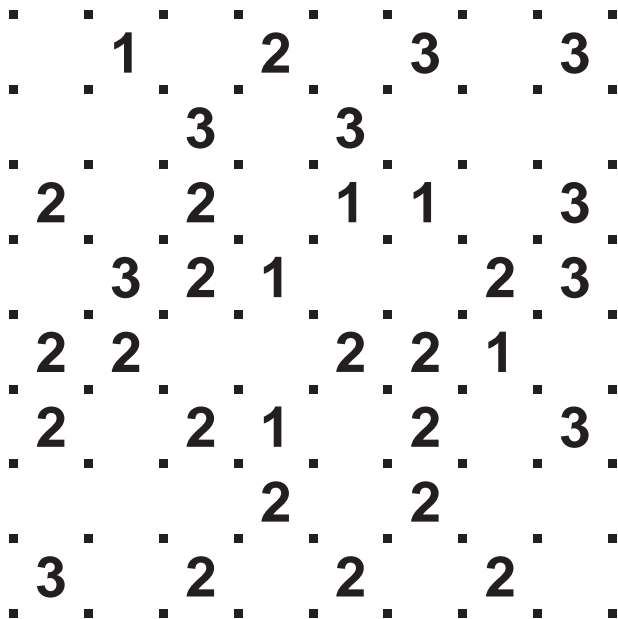


>> Slitherlink

Draw a single loop by connecting together the dots so that each numbered square has the specified number of adjacent line segments.

> Dots can only be joined by straight horizontal or vertical lines.

> The loop cannot touch, cross or overlap itself in any way.



6 Sudoku Xtra

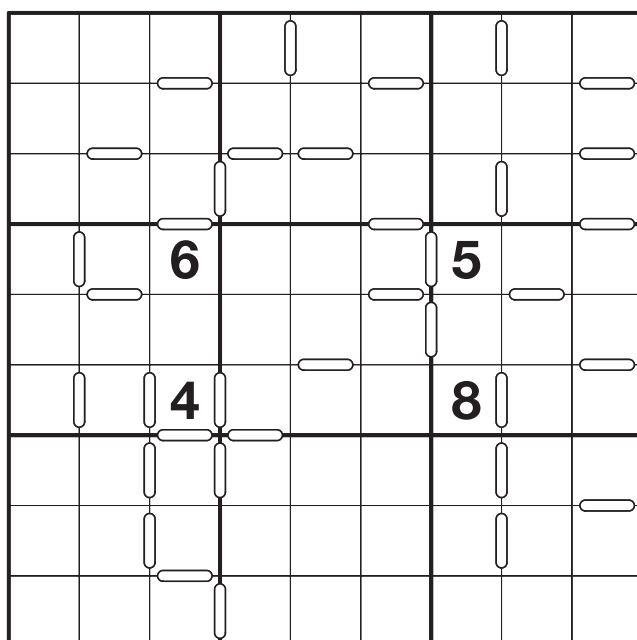
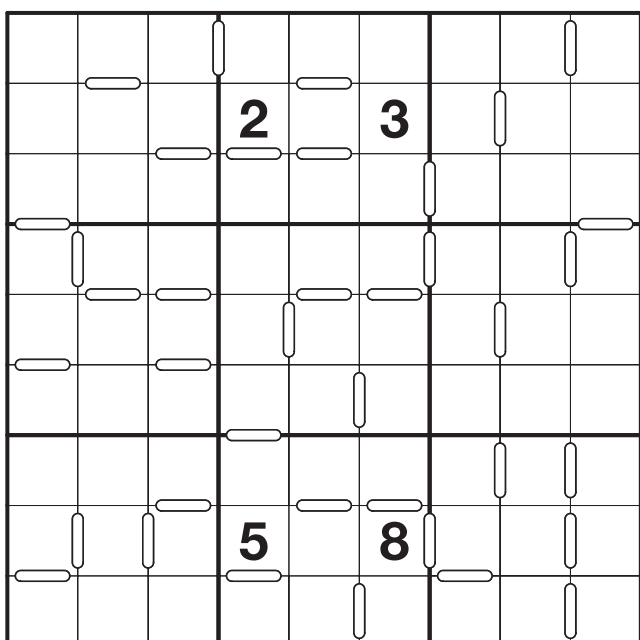
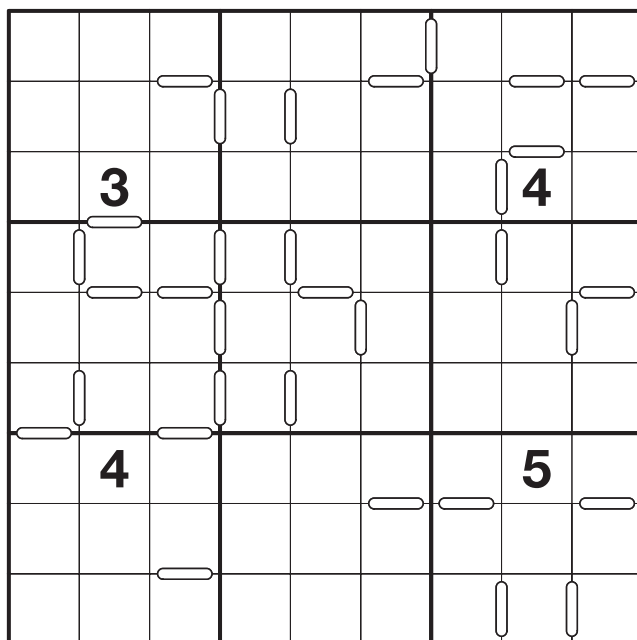
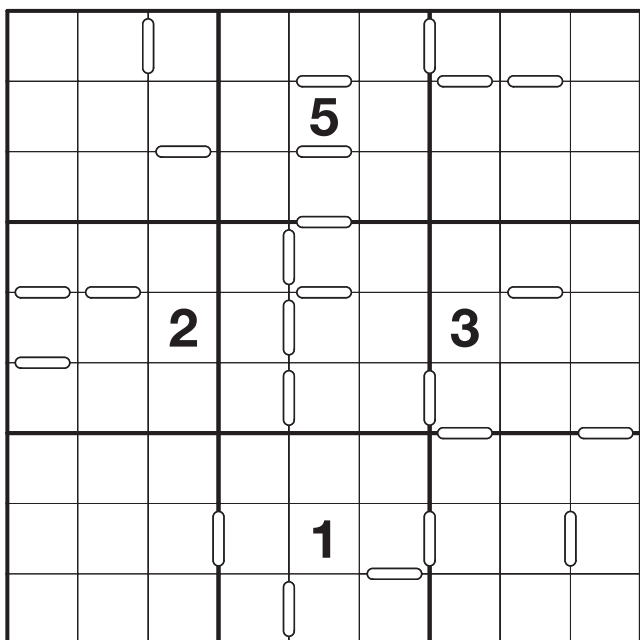
5	3	4	6	2	1	9	8	7
8	7	9	5	3	4	2	1	6
6	2	1	9	7	8	4	5	3
7	1	6	8	4	9	3	2	5
2	4	5	3	1	7	8	6	9
9	8	3	2	6	5	1	7	4
3	9	8	1	5	6	7	4	2
1	6	7	4	9	2	5	3	8
4	5	2	7	8	3	6	9	1

>> Consecutive Sudoku

Place 1 to 9 once each into every row, column and marked box, while obeying the white 'consecutive' markers between certain cells.

>Consecutive markers indicate **all** adjacent cells with consecutive numbers, such as 1&2, 2&3 or 7&8.

>Don't forget that cells **without** a white marker between are **not** consecutive.



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

>> Hitori

Shade in cells so that no number or letter occurs more than once per row or column.

> Shaded cells cannot touch in either a horizontal or vertical direction.

> All unshaded cells must form a single continuous area.

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

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

2	3	A	5	B	C	5	4	7	3	6	8
9	6	9	A	3	5	3	B	C	8	4	1
6	B	2	C	8	1	6	A	3	5	9	5
6	C	8	7	A	3	A	B	1	5	8	2
B	4	8	4	1	4	5	C	2	6	3	6
C	5	8	6	A	1	A	3	C	B	8	9
7	9	3	1	2	B	4	6	8	6	1	6
5	8	1	B	4	A	4	7	C	6	4	6
8	9	B	3	9	B	C	2	6	4	1	7
6	A	5	8	9	2	9	C	4	C	7	3
C	1	8	2	3	B	B	9	5	6	A	3
4	2	4	2	5	8	7	8	B	9	C	A

6	C	C	B	9	4	2	2	1	3	1	A
3	7	9	A	B	6	4	8	2	A	C	5
9	6	7	1	2	3	B	4	B	2	B	C
1	7	4	5	7	5	3	5	A	A	2	B
8	5	1	3	2	9	B	6	4	7	4	A
C	3	C	4	5	8	7	C	7	A	9	6
9	A	7	6	6	7	8	3	4	5	4	1
C	B	C	9	C	1	2	1	3	A	6	5
6	A	5	7	A	C	8	B	8	4	8	2
2	1	3	5	3	B	C	7	8	A	8	4
B	4	3	7	9	A	6	1	6	4	7	2
2	9	A	2	A	B	1	7	C	8	5	3

8 Sudoku Xtra

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

>> Sudoku XV

Place 1 to 9 once each into every row, column and 3x3 box.

- > All pairs of neighbouring cells which sum to 5 are marked with a 'v'.
- > All pairs of neighbouring cells which sum to 10 are marked with an 'x'.

	v							x
				4		x		
	v			x	x		v	
	x	x					x	
			x		v			x
		x			x			
	x	x	x	v				v
			x	8		x		
	x							
x						x		

v			x					x
2					x			v
x								
	x				x		x	
		v				x		
		x				v		v
					x			x
	x				v		x	
	x							9
x	v	x						
x			x					x

	v			x				x
			v					
		x			x	v		x
					v		v	
				x				
			8		9			
	v							x
			6		5			
							v	
x								v
		x						x
				x				
		v			x			
				x				

		x						
	8				x			7
		x		x				v
						x		
						v		
							x	
	1							6
		x			v			x
x								
x		x			v			x

Sudoku Xtra 9

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

>> Samurai Star

Place 1 to 9 once each into every row, column and marked 3x3 box of each of the five underlying 9x9 grids.

> Don't forget the 'hidden' fifth 9x9 Sudoku grid in the centre of the puzzle.

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

10 Sudoku Xtra

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

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

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

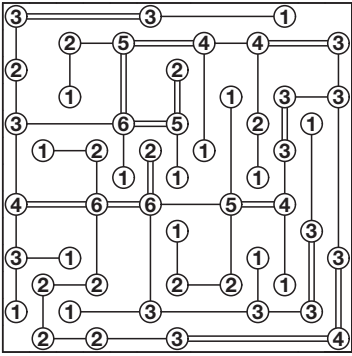
>> Consecutive 13-grid Samurai Sudoku

Place 1 to 9 once each in every row, column and 3x3 box of each of the thirteen 9x9 grids.

> Consecutive markers indicate **all** adjacent cells with consecutive numbers, such as 1&2, 2&3 or 7&8.

> Don't forget that cells **without** a white marker between are **not** consecutive. Note that, as in a regular Samurai, **only** those rows and columns which are within the 13 underlying 9x9 grids are guaranteed to contain all of 1-9. Any row or column not entirely within a single 9x9 grid has no restriction on its content. All bold-lined 3x3 regions contain 1-9.

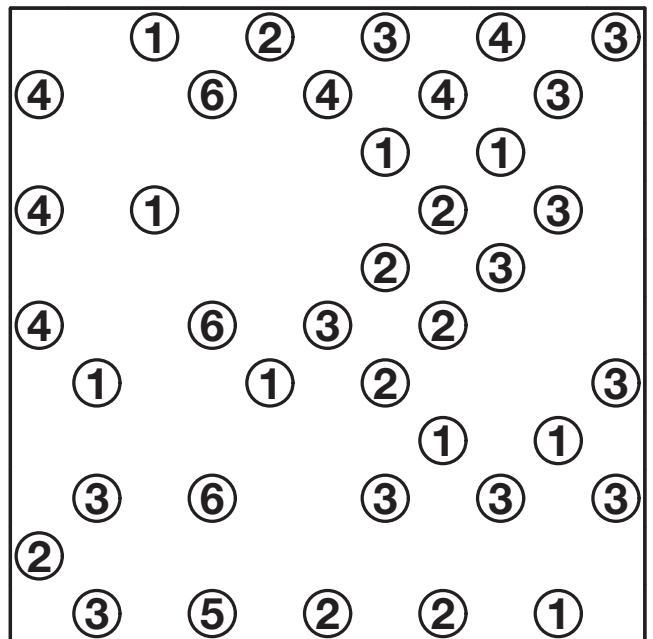
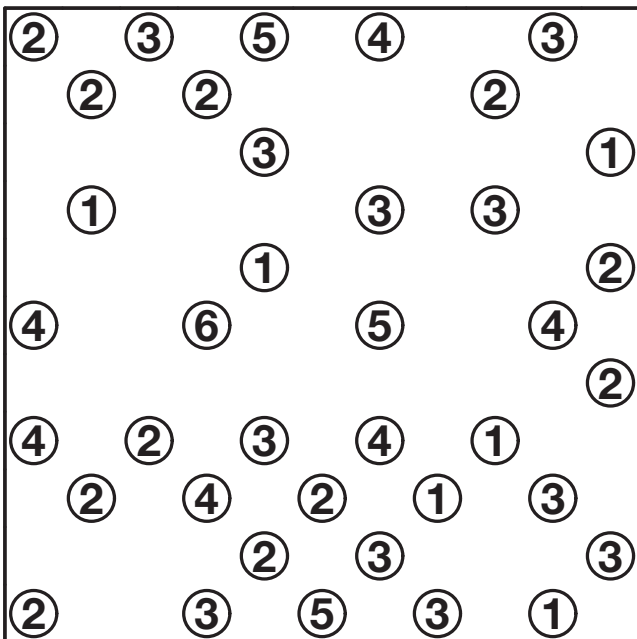
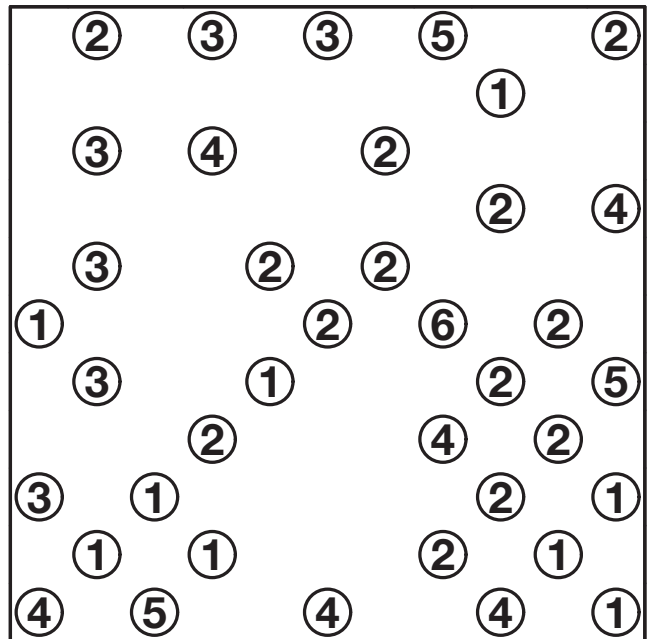
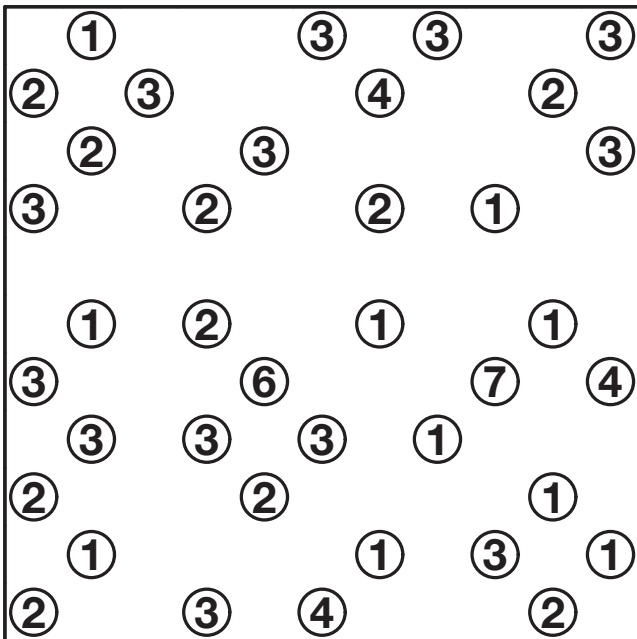
The puzzle consists of 13 overlapping 9x9 grids. The grids are arranged in a pattern where they share rows and columns. The puzzle includes various numbers placed in specific cells and white markers between adjacent cells indicating consecutive numbers. Bold-lined 3x3 regions are also present.



>> Hashi

Join circled numbers with horizontal or vertical lines.

- > Each number must have as many lines connected to it as specified by its value.
- > No more than two lines may join any pair of numbers.
- > No lines may cross.
- > The finished layout must allow you to travel from any number to any other number just by following one or more lines.



12 Sudoku Xtra

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

>> Jigsaw Sudoku

Place 1 to 7, 8 or 9 once each into every row, column and bold-lined jigsaw region.

5								
3						1		
	2					6		
	4							7
								1

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

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

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

Sudoku Xtra 13

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

>> Arrow Sudoku

Place 1-9 once each into every row, column and bold-lined 3×3 box.

> Digits in circled cells must be equal to the sum of the digits along their attached arrows.

8								5
	1	○		4			7	
								○
○								
	4	→			○			6
								○
			○	○				
	8			2			4	
4	○			↓	↓			6

4				5				○
			3					
		8					2	
						7		○
○	○	→					○	
			1			←		2

9								3
			8		3			
	3	○					7	
				3				○
	5						3	
			2		9			
7								6

		9				4		
	2			○		○	3	
6								7
								○
4							○	8
	8						2	
		6					3	

14 Sudoku Xtra

	5	16			17	16		
7	1	6		17	19	8	9	
13	4	9	19	3	9	7		
	18	1	8	9	23			
	3	4	17	4	7	6	16	
6	2	1	3	16	9	7		
4	1	3		17	8	9		

>> Kakuro

Place a digit from 1 to 9 into each white cell to solve the clues.

- > Each horizontal run of white cells adds up to the total above the diagonal line to the left of the run, and each vertical run of white cells adds up to the total below the diagonal line above the run.
- > No digit can be used more than once in any run.

				24	17	30		
			24					
		30	3					
	28						32	
19					17			
26								10
3			30		17			
24						16		
				24	15			
	17			20				
			16					
		35						
		23						

			4	12		3	30		
		4			4				
3	14				6			6	
14					3				16
3			4			17			
			22			5			
	14			23					
			3		3				
12	6				3			24	
19						17			
6			4			6		17	
			3				17		
	6				19				
			9			11			

			27	14		14	4		
		15			3				
		21						20	15
	19				26				
15				12					
12				12			16		
			4			24			
29					5				
					8				
	6			7					
	17			6			19	7	
	6			20					
4			24						
8			13			18			
		4			14				
21					11				
					16				
		10							

	16	17				12	10		
17				24	16				18
10			14		20			3	10
		24					20		
	10		8			3		13	
		29		22			29		
						25			
	11	17		13			14		
16		22			27		18		
				17					33
3			16		14			4	
				12					11
17			11					11	17
		14		6					7
	4			24			3		18
		25						13	
	16	3					17	12	
19					37				
21									

7	2	3	<	5	1	<	6	4
3	1	4	<	6	2	7	5	
1	5	7	2	4	3	6		
4	6	>	2	3	7	5	1	
5	3	>	1	4	6	2	7	
2	<	4	6	<	7	>	5	1
6	7	5	1	<	3	<	4	2

>> Futoshiki

Place 1 to 5, 6, 7 or 8 once each into every row and column while obeying the inequality signs.

> Less than ["<"] and greater than [">"] signs between some cells indicate that the values in these two cells must be greater than or less than one another as indicated by the sign. The sign always points towards the smaller number.

4		<			2
5				>	3

	<			>			

		>	>			>	

		>	>			<	<		>	
	<					<	<			
8										6
3	>			>						5

16 Sudoku Xtra

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

>> Killer Sudoku [Zero]

Place each of 1 to 9 into every row, column and 3x3 box while obeying the cage totals.

- > The contents of each dashed line cage must sum to the total given at the top-left.
- > You **cannot** repeat a number within a dashed line cage.
- > In the bottom-right 'Zero' puzzle not all cells are covered by cages.

r10	r13	r10		r13		r11		
			r14		r18	r16		
r10	r11		r8	r7	r10		r24	
	r26	r19				r18		
			r11				r12	
			r17	r17	r11			
	r8					r6		
r25	r5			r9		r21	r12	
			r7			r6		

r5		r13	r38			r15		r10
r16	r8					r5		
		r9			r10	r10		r15
r12			r33			r7	r14	
r11	r12	r6						
			r15			r6	r13	
	r13			r39			r7	r7
r9	r15					r17		
	r6						r9	

r29		r16	r9	r9	r15	r12	r11	
r7								
r3	r11		r20					
r16			r25	r23				
r5				r8	r12			
r28				r14		r9		
r24	r20					r11		
	r11	r5	r7	r13		r22	r10	

r5		r13				r17		
r14			r7		r3			
	r7			r12				
		r14			r22			
	r23					r11		
				r8			r11	
			r5		r19			
	r19	r7		r14			r7	
			r12		r4		r15	

	2	3	4	1	2	
3	1	3	2	5	4	2
1	5	4	1	2	3	3
4	2	1	3	4	5	1
2	3	5	4	1	2	3
2	4	2	5	3	1	3
	2	2	1	3	3	

>> Skyscraper

Place each of 1 to 5, 1 to 6 or 1 to 7 into every row and column.

- > Each number in the completed grid represents a building of that many storeys. Place the buildings in such a way that each given number outside the grid represents the number of buildings that can be seen from that point, looking only at that number's row or column.
- > A building with a higher value always obscures a building with a lower value, while a building with a lower value never obscures a building with a higher value.

	2	2	2	1	3	
3						2
1						2
2						3
2						3
2						1
	2	2	3	4	1	

	4	1	2	4	5	2
2						2
3						1
2						4
1						4
2						2
3						3
	3	3	3	1	2	3

	2	1	3	3	3	4	2
2							3
3							1
2							4
2							5
1							4
3							3
5							2
	3	4	3	3	2	1	2

	2	2	4	4	1	3	4
3							2
2							4
1							2
4							1
2							2
4							2
2							3
	3	3	1	2	7	2	2

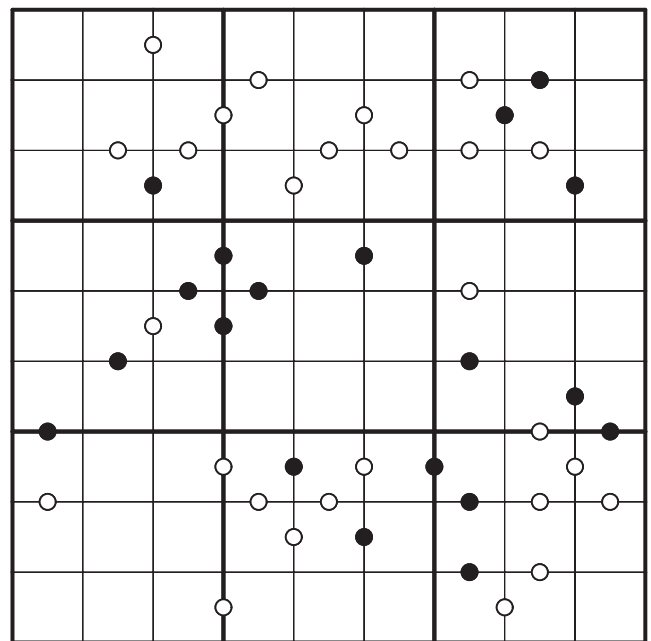
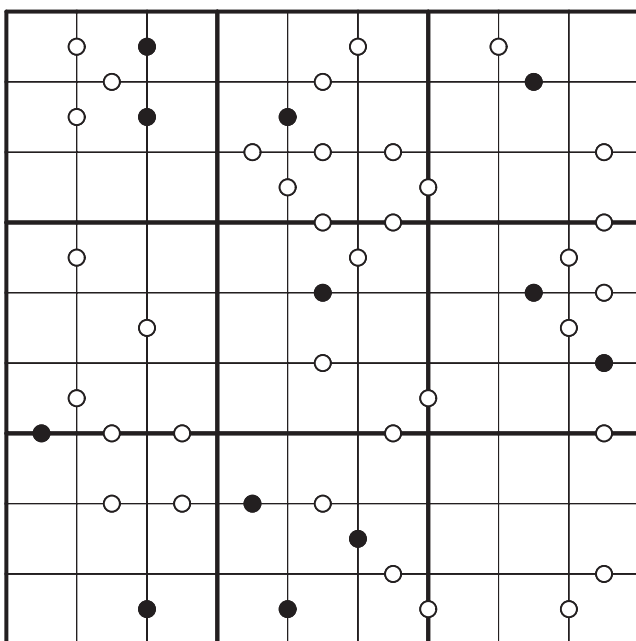
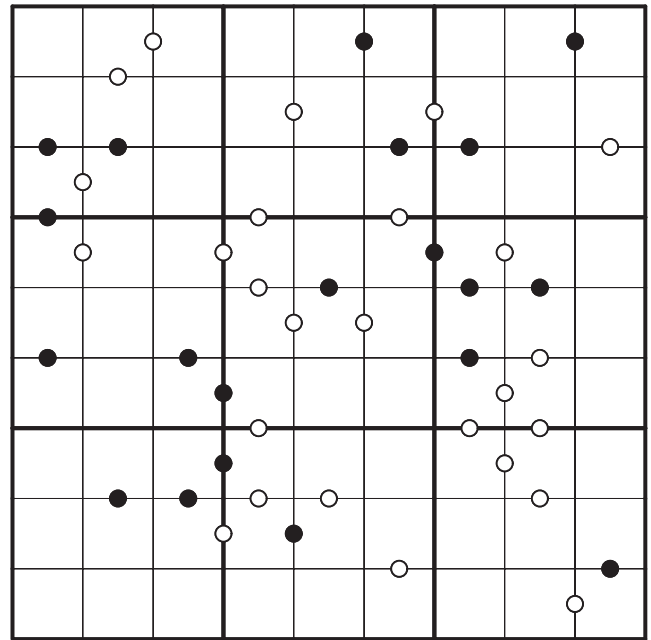
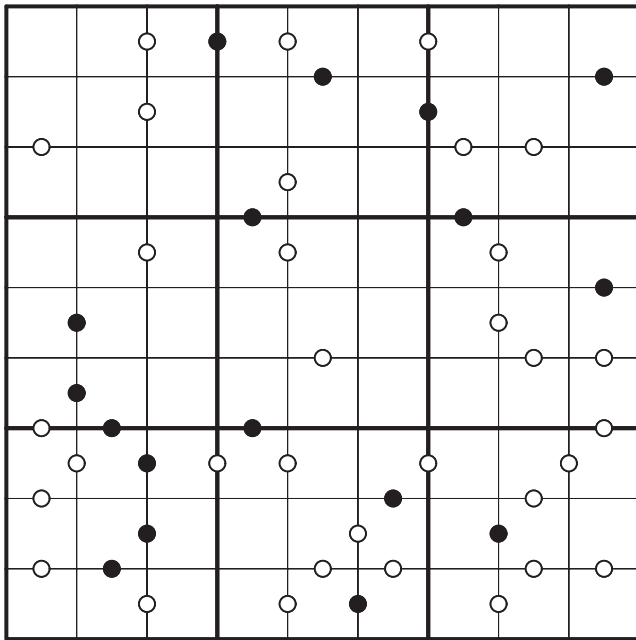
18 Sudoku Xtra

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

>> Kropki Sudoku

Place 1 to 9 once each into every row, column and marked 3x3 box.

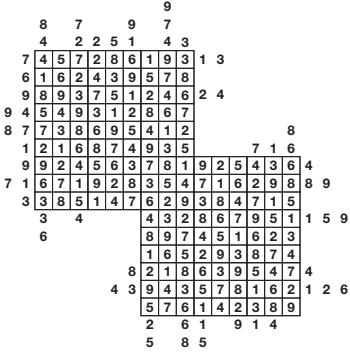
- > Two cells with a black dot between contain numbers where one is twice the value of the other.
- > Two cells with a white dot between contain consecutive numbers, such as 2&3 or 5&6.
- > All possible black/white dots are given.
- > Between 1&2 either a white or a black dot is used.



Sudoku Xtra 19

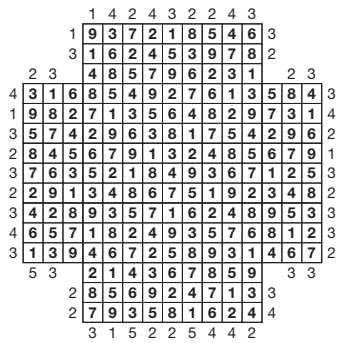
>> SOS: Samurai Outside Sudoku

Place 1 to 9 once each into every row, column and 3x3 box of each of the underlying five 9x9 Sudoku grids, while obeying the outside clues.



- > Numbers outside the grid must be placed into the first three cells in the relevant row or column, but not necessarily in the order given.
- > See the two-grid example solution on the left to see how this works.

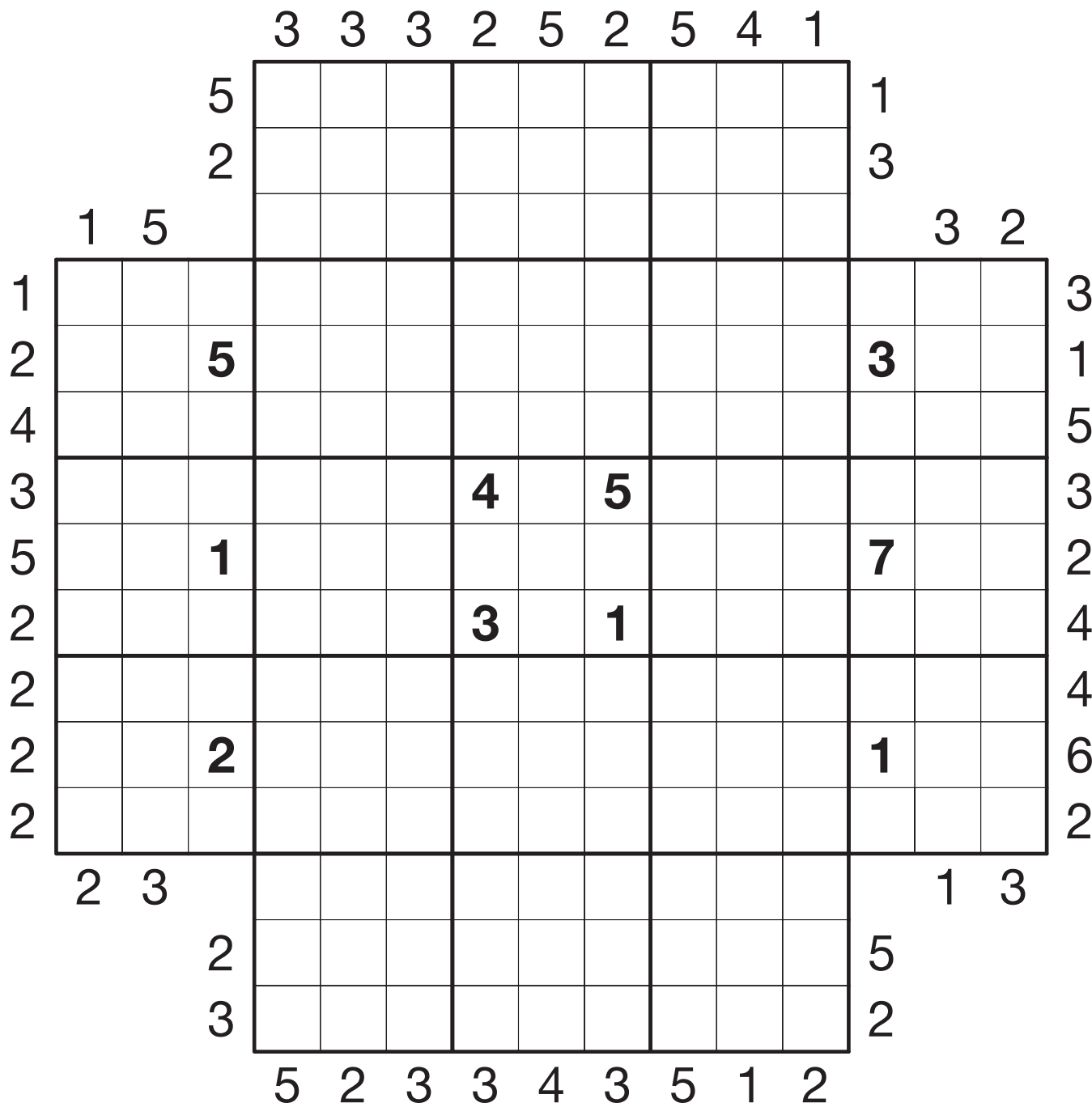
20 Sudoku Xtra



>> SSSS: Skyscraper Samurai Star Sudoku

Place 1 to 9 once each into every row, column and marked 3x3 box of each the five underlying 9x9 grids, while obeying the Skyscraper clues.

- > Don't forget the 'hidden' fifth 9x9 Sudoku grid in the centre of the puzzle.
- > See page 17 for instructions on solving Skyscraper clues.



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

>> Quad Clue Sudoku

Place 1-9 once each into every row, column and bold-lined 3x3 box.

> Wherever four digits are given on the intersection of four cells then these four digits must be placed into those four cells in the given distribution. It is up to you to work out which digit goes into which cell.

		1349				3678		
	2468							
	2379			3458			2456	
	1489				1457			
			2379					
	1279					2448		
							3457	
				1289				

								2479
	1467	2678						1238
						3447		
	5689			2369				
			4479					
	1337		4488					
								3567
				1356				

		3689				2358		
	4569	1468			5789			
			2388					
						3489		
	3367				1689			
		1279				2478		

				1789			2346	
	1136		4679					
		2345						
							1367	1246
							1237	
		4579		1359	1456			
		1679						

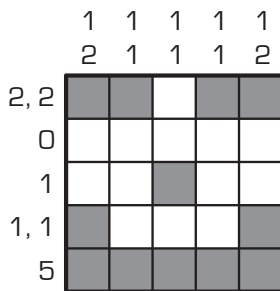
22 Sudoku Xtra

>> Hanjie

Shade in cells in the grid to reveal a picture while obeying the clue constraints at the start of each row or column.

> Numbers outside provide, in order, the length of every run of consecutive shaded cells in each row or column.

> There must be a gap of at least one empty cell between each run of shaded cells in the same row or column.



Clue (top):
Two wheeler

Clue (bottom):
Just hatched

						1									
	1			2	2	1			1	2		2	2		
	2	2	2	6	1	2	1	2	1	1	1	6	1	2	1
	3	2	2	1	2	2	3	1	3	2	2	1	2	2	3
	1	1	3	2	3	1	1	1	1	2	2	1	2	2	1

1															
3															
3, 1															
5, 4															
1, 5															
3, 1															
1, 9															
3, 1, 2															
2, 2, 3															
2, 2, 2, 2															
1, 1, 1, 2, 2															
2, 2, 1, 1, 1															
2, 2, 2, 2															
3, 2, 2															
9, 3, 1															

						2	2		1		1				
		3		2	3	2	2	2	2	2	2				
	2	2	3	1	1	3	1	1	1	3	4	3	3	2	
	3	1	1	3	1	1	1	1	4	1	1	4	1	1	1

3															
3, 2															
2, 2															
2, 1, 2															
2, 2, 3															
1, 2															
2, 2, 4															
1, 3, 1															
2, 3, 1															
2, 2, 2															
1, 1															
3, 3															
7															
1, 1															
4, 4, 2															

>> Dominoes

Can you place a full set of dominoes into each grid?

2	3	4	6	1	5	1	4
4	5	6	2	1	6	3	2
1	4	1	2	3	6	3	0
2	4	4	1	4	0	3	5
1	2	2	5	2	5	0	0
3	6	5	6	6	6	5	1
0	3	0	4	3	0	5	0

0	1	2	3	4	5	6	
							0
							1
							2
							3
							4
							5
							6

> Draw along the dashed lines to indicate where each domino is placed.

> Use the chart to check off dominoes you've already placed.

> 0 represents a blank on a domino.

> Each domino occurs exactly once in each grid.

1	1	2	0	6	1	4	3
5	5	6	6	0	4	1	0
3	4	2	2	2	5	6	3
5	2	1	2	3	3	3	0
0	4	2	5	6	6	0	0
3	4	1	5	0	2	5	5
4	6	1	4	6	1	3	4

0	1	2	3	4	5	6	
							0
							1
							2
							3
							4
							5
							6

3	5	0	1	2	3	3	6
1	3	4	4	1	2	4	2
4	4	4	2	3	1	0	6
2	1	0	4	5	1	0	5
5	5	5	0	5	1	6	6
0	2	4	6	5	6	3	3
0	6	1	3	2	2	6	0

2	6	2	2	2	6	2	2
5	1	0	4	3	6	4	2
0	0	1	3	5	5	0	1
4	4	1	0	6	1	3	3
3	5	6	5	4	1	0	5
3	4	2	4	5	1	6	1
6	4	0	0	3	6	5	3

0	1	2	3	4	5	6	
							0
							1
							2
							3
							4
							5
							6

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6	4	1	5	2	3
1	5	4	6	3	2
4	1	2	3	5	6
5	3	6	2	4	1
3	2	5	1	6	4
2	6	3	4	1	5

>> Sudoku 6x6 Variety Pack

Place 1 to 6 once each into every row, column and bold-lined region.

- > Puzzle 1: Regular Sudoku 6x6
- > Puzzle 2: Obey the inequality signs: arrows points to smaller numbers
- > Puzzle 3: Jigsaw - irregularly-shaped regions replace the 3x3 boxes
- > Puzzle 4: No digit can repeat on either of the two grey main diagonals
- > Puzzle 5: White bars show **ALL** consecutive value neighbours (e.g.1&2)
- > Puzzle 6: Killer Sudoku Pro (see P.27; no digits repeat in any killer cage)

		6			
			5		
	5				4
4				6	
		3			
			1		

>			<		
		>		<	
			>		
			^		v
	^		^		v
	^		v		<
>			v		

			3		
	4			6	
1					
					3
	2			4	
		1			

			2		
6	5	1			
		3	6	2	
		6			

			2		
			4		

r72x-		r6+	r120x7
r5÷-	r2x-	r60x-	
	r2÷-		r3÷-
r24x-		r13+	r2÷-
	r10+-	r4x-	r90x-

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Sudoku Xtra 25

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

>> Jigsaw Sudoku Extra Regions

Place 1 to 9 once each into every row, column, continuous shaded area and bold-lined jigsaw region.

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

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

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

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

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

>> Quad Max Sudoku

Place 1-9 once each into every row, column and bold-lined 3x3 box.

> If the value in a cell is greater than its three touching neighbours in any one corner than a greater-than arrow is shown in that corner.

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

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

4								5
					6			
		9						
						1		
			3					
5								3

							6	
						3		
4								
	2							
				4				
							1	
								2
		3						
	5							

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

>> Killer Sudoku Pro [Zero]

Place 1-9 once each into every row, column and bold-lined 3×3 box.

> No digit may be repeated in any dashed-line cage, and each dashed-line cage must result in the given value when the stated operation is applied between all of the digits in that cage.

> For subtraction and division operations, start with the highest digit in the cage and then subtract or divide by the other digits in that cage.

> In the final 'zero' puzzle not all cells are covered by cages.

r12+	r24x	r84x	r1-	r162x	r5-			
r0-				r21+	r8x-			
	r23+		r7-	r90x-				
	r8+		r14+	r4-	r11+			
r0-	r126x	r45x-						
r27x-			r1-	r112x				
	r10+	r13+	r210x	r32x-	r14+			
		r15+	r5+					
r16x-					r63x-			

r672x	r5-	r252x	r20+			r10x-		
		r48x-	r12+					
r7+	r15+		r17+	r24x-	r28x-			
r9+	r60x-		r9+					
	r3÷-	r160x	r60x-			r11+		
r6x-		r10+	r16+					
		r2-	r12+		r13+			
r1-	r9+		r16+	r2÷-	r18+			
	r19+							

r8+	r4-	r0-	r4-	r4-	r28x-	r3+		
			r13+		r24x-			
r3-		r24x	r2÷-		r270x			
r7÷-	r72x-	r20x-		r432x	r2-	r1-		
				r24x-	r7-	r4x-		
r3-	r9+			r13+				
r0-		r2÷-		r3-	r36x-			
r7-	r9+	r9+	r9x-		r56x-	r2-		
r36x-		r5-						

r10+							r84x-	
		r72x-						
r1134x				r1-				
		r30x-	r18x-	r280x				
		r2÷-				r36x-		
r216x-			r1-					
r40x-	r1-							
r1296x	r9x-	r140x	r54x-		r280x			
					r1-			

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

>> Diagonal Sudoku

Place 1-9 once each into every row, column and bold-lined 3×3 box.

> No digit can be repeated along any marked diagonal line.

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

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

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

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

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

>> No Donkey Step Sudoku

Place 1-9 once each into every row, column and bold-lined 3×3 box.

> No two identical digits can be either one or two cells apart in a diagonal direction (with diagonal meaning at 45 degrees to the perpendicular).

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

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

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

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

30 Sudoku Xtra

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

>> Sudoku 8x8 & Sudoku 10x10

Place 1-8 or 0-9 once each into every row, column and bold-lined 4x2 or 5x2 box.

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

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

				7		2		0
5	3			0		8	6	1
	1		6		3			
7	2					9		
		4					5	6
1	9					0		
		9					2	5
				1		9	8	
	0	6	1		5		3	8
	8		5		2			

7		3			8		0		9
	8			0			2	3	
9	2			8	7				0
			0			2			
8		7					6	2	
	6	5					7		3
			6			7			
1				4	0			8	5
	7	0			6			1	
2		4		6			9		8

>> Sudoku 15x15

Place 1 to 9 and A to F once each into every row, column and 5x3 bold-lined box.

4	6	7	3	8	1	A	F	E	D	5	C	B	2	9
5	B	F	9	E	C	2	4	8	3	A	6	1	7	D
1	D	2	C	A	9	B	7	5	6	8	4	E	F	3
A	F	5	E	C	4	7	D	6	1	2	B	3	9	8
D	7	6	B	9	3	E	5	2	8	4	F	A	C	1
8	2	3	1	4	A	F	B	C	9	7	5	D	6	E
E	C	9	4	3	7	5	8	F	B	D	A	2	1	6
6	8	A	2	F	D	3	1	9	E	C	7	5	B	4
B	5	1	D	7	2	C	6	4	A	E	9	8	3	F
2	4	8	6	D	B	9	3	1	C	F	E	7	A	5
9	1	E	F	5	8	4	2	A	7	B	3	6	D	C
3	A	C	7	B	F	6	E	D	5	9	1	4	8	2
C	9	B	5	6	E	D	A	3	2	1	8	F	4	7
F	3	D	A	1	5	8	C	7	4	6	2	9	E	B
7	E	4	8	2	6	1	9	B	F	3	D	C	5	A

If you're a fan of giant Sudoku puzzles then check out the **Sudoku Xtra Specials** series on www.SudokuXtra.com - books of **Sudoku 25x25**, **20x20**, **18x18**, **16x16**, **15x15** and **12x12** are now available.

>> Sudoku 16x16

Place 1 to 9 and A to G once each into every row, column and 4x4 bold-lined box.

3	2	4	D	C	F	G	9	E	B	A	6	1	7	8	5
C	B	5	E	1	3	6	7	9	2	G	8	4	A	D	F
A	G	1	9	5	E	2	8	D	7	F	4	6	3	B	C
6	7	8	F	A	4	D	B	3	C	1	5	E	2	9	G
2	D	C	7	4	B	8	F	5	1	3	G	9	6	E	A
E	1	B	6	G	9	7	3	2	A	4	C	D	5	F	8
F	9	G	4	2	5	C	A	8	D	6	E	7	1	3	B
8	5	3	A	6	1	E	D	B	F	7	9	G	C	2	4
5	C	D	3	B	G	A	2	7	6	9	F	8	E	4	1
G	E	9	1	7	6	5	4	C	8	2	3	B	F	A	D
B	F	7	8	E	D	3	1	4	G	5	A	2	9	C	6
4	6	A	2	F	8	9	C	1	E	B	D	5	G	7	3
7	A	F	C	9	2	1	G	6	4	8	B	3	D	5	E
9	8	2	G	D	C	B	5	F	3	E	1	A	4	6	7
D	3	E	5	8	A	4	6	G	9	C	7	F	B	1	2
1	4	6	B	3	7	F	E	A	5	D	2	C	8	G	9

D	5		9	A	3	7		F	C	1	2		8	E
	2		3	8						5	7		D	
		F		E						B		A		
1	D				7	A		B	6				9	8
B			5			8		3			1			6
7				6		1		E		4				3
	8				B	2		A	D				6	
	4				8		5		3				1	
	6				1	C		4	E					F
E				7		F		D		2				4
5			6			B		9			F			A
F	C				E	4		5	A				7	9
		5		9						C		6		
	B		D	1						9	A		2	
C	F		E	4	9	D		7	2	8	3		B	1

G				A	7					6	E				D
	F	C		E						5		G	A		
	1		D	F	3					7	9	C		4	
			4			9	6	B	F			3			
D	G			3	2					B	A			9	C
E	8	6	A									2	D	3	B
1					E	7	C	8	9	4					G
				G		B			5	6					
				9		3			A	1					
5					C	A	G	3	4	F					2
F	B	3	C									D	1	G	A
9	A			8	1					D	C			5	3
				F			5	3	A	C			E		
	4			E	1	F				3	D	G		B	
	7	5		6							8		3	F	
B				2	9					E	7				1

32 Sudoku Xtra

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

>> Worm Sudoku

Place 1-9 once each into every row, column and bold-lined 3×3 box.

> The values of the digits along each worm must decrease by exactly 1 in each cell from the head (marked with eyes) to the tail. For example, 8765 is valid but 8754 is not.

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

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

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

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

	1	0	2	1	0	2	3	-1	-1	
-3	5	6	4	9	7	1	8	2	3	3
-2	7	3	8	2	4	5	1	6	9	2
6	1	9	2	6	3	8	4	5	7	-2
-2	6	5	9	4	1	7	3	8	2	3
4	2	1	7	3	8	9	6	4	5	-3
1	4	8	3	5	2	6	9	7	1	1
0	8	2	6	7	9	3	5	1	4	0
-2	3	4	5	1	6	2	7	9	8	-6
1	9	7	1	8	5	4	2	3	6	1
	-2	1	0	0	-2	-1	0	5	-2	

>> Minus Frame Sudoku

Place 1-9 once each into every row, column and bold-lined 3x3 box.

> Values outside the grid reveal the result of subtracting the remaining numbers from the largest number found up to the first bold line in the adjacent row or column.

	1	-4	2	-2	-1	4	3	-1	-3	
2										0
-2				5		4				3
-1										-2
-1		3						5		1
2										-4
0		2							1	0
2										-5
-1				7		8				0
-2										0
	-1	-1	5	0	0	-1	-1	0	0	

	0	-1	-2	1	2	0	1	3	-3	
-2										1
3		2							4	-1
0					9					-1
1										-2
3			8					5		0
-3										1
4					4					0
1		6							3	1
-2										2
	0	-5	4	0	-2	-1	2	1	0	

	2	2	-1	-1	3	-1	0	2	-5	
-2	9								6	-3
-1										0
0										2
2				9		6				0
-2										6
3				7		1				-3
4										-3
-3										0
0	7								9	4
	0	2	-3	0	-4	1	1	-2	4	

	-1	-2	4	-3	2	-2	4	0	-1	
-4										-1
-1					2					2
0										-6
-1										0
0		6							3	0
0										-1
0										-3
-4					4					2
3										2
	-2	2	-1	0	2	1	0	2	-5	

34 Sudoku Xtra

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

>> Offset Sudoku

Place 1-9 once each into every row, column, bold-lined 3×3 box and offset region

> There are nine offset regions, each one consisting of the set of nine cells that are in the same relative position in a 3×3 box. So, for example, the nine cells each in the top-left position of a 3×3 box together form one offset region, and the nine cells each in the centre of a box form another.

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

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

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

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

	5	16			17	16
7	1	6		17	8	9
13	4	9	19	3	9	7
	18	1	8	9	23	
	3	4	17	4	7	6
6	2	1	3	16	9	7
4	1	3		17	8	9

>> Kakuro

Place a digit from 1 to 9 into each white cell to solve the clues.

- > Each horizontal run of white cells adds up to the total above the diagonal line to the left of the run, and each vertical run of white cells adds up to the total below the diagonal line above the run.
- > No digit can be used more than once in any run.

				9	33		5	30		13	15		17	12
				7			12			13			14	
		16	21											
	8			17			5			5			6	
				12			14			19			12	
	20			15			13			20				
		16		14			5			4				
	14	27		10			24			15			17	16
26							27					22		
											25			
13				4			16			24				
			12	10			4			12				
	20					12			22				3	17
						16			5					
	12			10			4			16				
				14			21							
		15				12				6				
	16	14	19			31			29	10				16
22						13			6				13	
						17						23	20	
23				12					35					
				25					4					
		11				16			11			13		
		22											3	
						17			10			9		
	24					12			17			10		
	10													
14				6		14			4			11		
11				14			11		13					

36 Sudoku Xtra

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

>> Thermometer Sudoku

Place 1-9 once each into every row, column and bold-lined 3x3 box.

> The value of the digits along each shaded thermometer must increase cell by cell from the bulb (lowest value) to the head (highest value). This also means that digits cannot be repeated in a thermometer.

1				8				9
	7							2
				4				
7			8		6			2
				9				
	9						4	
6				7				1

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

6								
				5				
	9	5						
				7		8		
	8					9		
	4		5					
						9	6	
			4					
								4

		1						
	8		1				9	
								4
							8	
				7				
	2							
7								
	5				8		7	
						9		

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

>> Non-consecutive Diagonal Sudoku

Place 1-9 once each into every row, column and bold-lined 3×3 box.

> No two diagonally-adjacent cells may contain consecutive numbers, such as 1&2 or 5&6. (Horizontally or vertically adjacent cells **can** contain consecutive numbers).

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

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

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

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

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

>> Sudoku X

Place 1-9 once each into every row, column, marked diagonal and bold-lined 3x3 box.

For more Sudoku variants check out my puzzle blog at www.garethmoore.co.uk

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

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

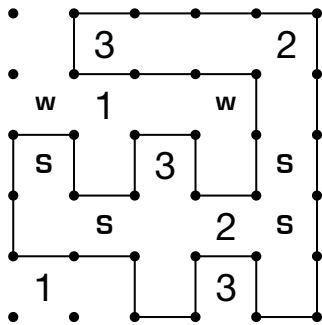
6								3
			8		1			
				2				
	8			5				9
		5	3		7	1		
	4			9				5
				8				
			7		4			
9								7

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

>> Wolves and Sheep in Fences

Draw a single loop (fence) by connecting together the dots so that each numbered square has the specified number of adjacent line segments. Make sure that the sheep are all fenced off from the wolves.

- > Dots can only be joined by straight horizontal or vertical lines.
- > The loop cannot touch, cross or overlap itself in any way.
- > All sheep, 's', must be **inside** the completed loop.
- > All wolves, 'w', must be **outside** the completed loop.



Check out the discussion forums at www.SudokuXtra.com/forum to chat about these and other puzzles with fellow readers!

				3	s	s	s	3	
								w	
3									
		2	2	w		2		2	
s			w	1			w		
	w		1	s				w	
3		3		s	2	3			
	s							0	
1	w	s	s	3					
		2	2	w	s		1		
w	w	1				w		3	
	3		w			2	2		
s		0			3		2		
1		2			2		s		
2	1			s		2			
3		s			2	s	s		
	2		w	s	2	3			

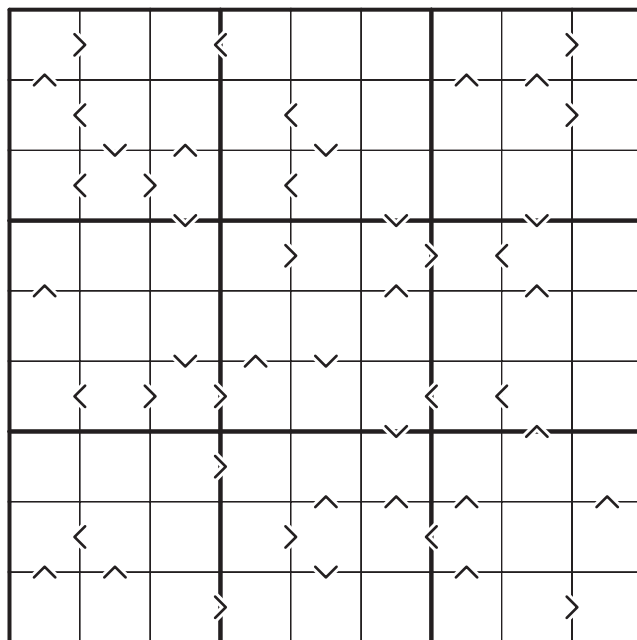
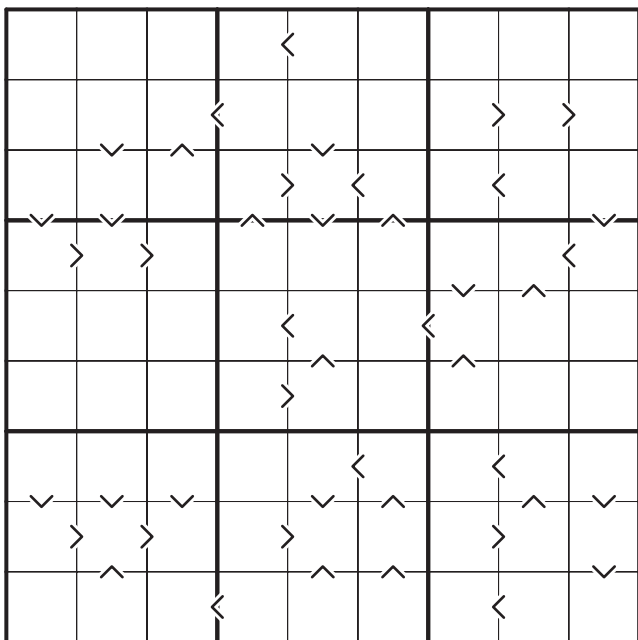
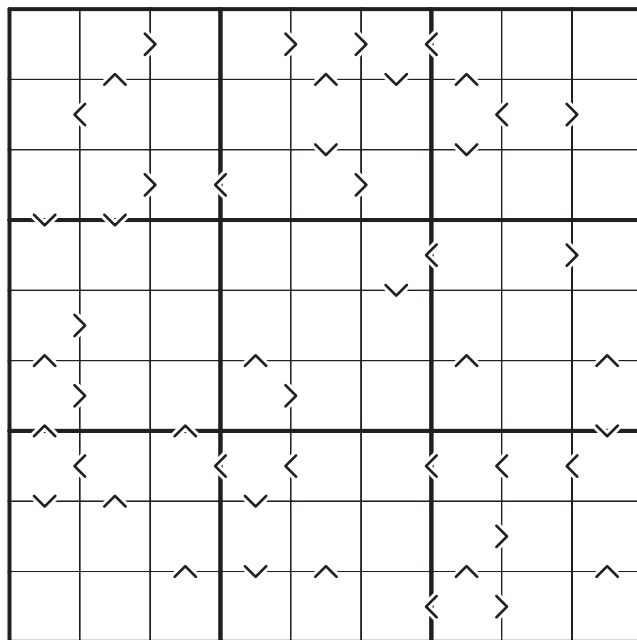
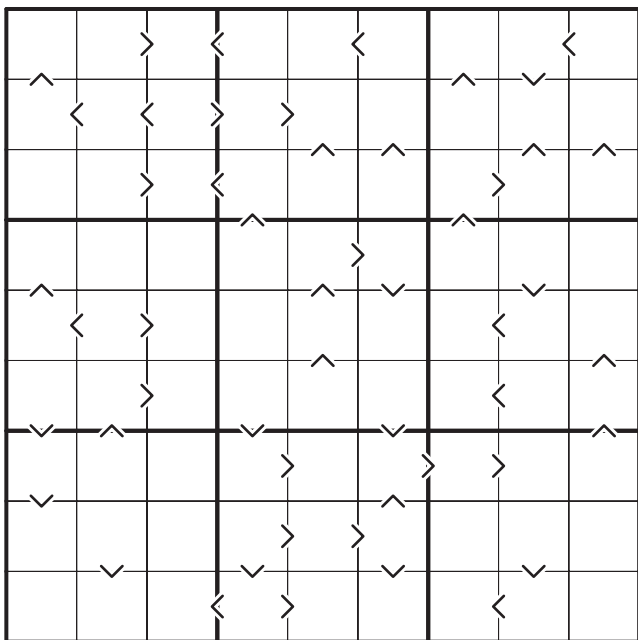
40 Sudoku Xtra

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

>> Sudoku Inequality

Place 1 to 9 into each row, and column and bold-lined region while obeying the inequality signs.

> Less than ["<"] and greater than [">"] signs between some cells indicate that the values in these two cells must be greater than or less than one another as indicated by the sign. The sign always points towards the smaller number.



>> Product Little Killer

Place 1-6 once each into every row, column and bold-lined 3x2 box.

> The result of a multiplication operation on some diagonals is given, defined as the product of all of the numbers in the diagonal pointed to by the arrow.

> Note that numbers **may** repeat in a diagonal, subject to the usual rules of Sudoku.

96 ↘ 120 ↘ 3 ↘ 30 ↘ 4 ↘

						144
3 ↖						100
10 ↖						20
96 ↖						12
5 ↖						3
1080 ↖						
	↖ 2	↖ 6	↖ 15	↖ 384	↖ 1500	

216 ↘ 180 ↘ 48 ↘ 5 ↘ 2 ↘

						36
6 ↖						192
8 ↖						25
15 ↖						6
36 ↖						6
1500 ↖						
	↖ 1	↖ 15	↖ 96	↖ 60	↖ 96	

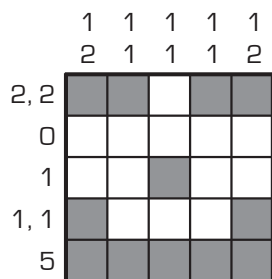
360 ↘ 54 ↘ 24 ↘ 20 ↘ 2 ↘

						540
5 ↖						320
3 ↖						10
144 ↖						6
8 ↖						3
360 ↖						
	↖ 2	↖ 18	↖ 80	↖ 60	↖ 12	

120 ↘ 160 ↘ 180 ↘ 6 ↘ 1 ↘

						576	
6 ↖	6	4	2	5	3	1	108
4 ↖	1	3	5	4	6	2	25
18 ↖	3	5	1	2	4	6	6
500 ↖	4	2	6	3	1	5	4
48 ↖	2	1	4	6	5	3	
	5	6	3	1	2	4	
	↖ 5	↖ 12	↖ 12	↖ 24	↖ 360		

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>> Hanjie

Shade in cells in the grid to reveal a picture while obeying the clue constraints at the start of each row or column.

- > Numbers outside provide, in order, the length of every run of consecutive shaded cells in each row or column.
- > There must be a gap of at least one empty cell between each run of shaded cells in the same row or column.

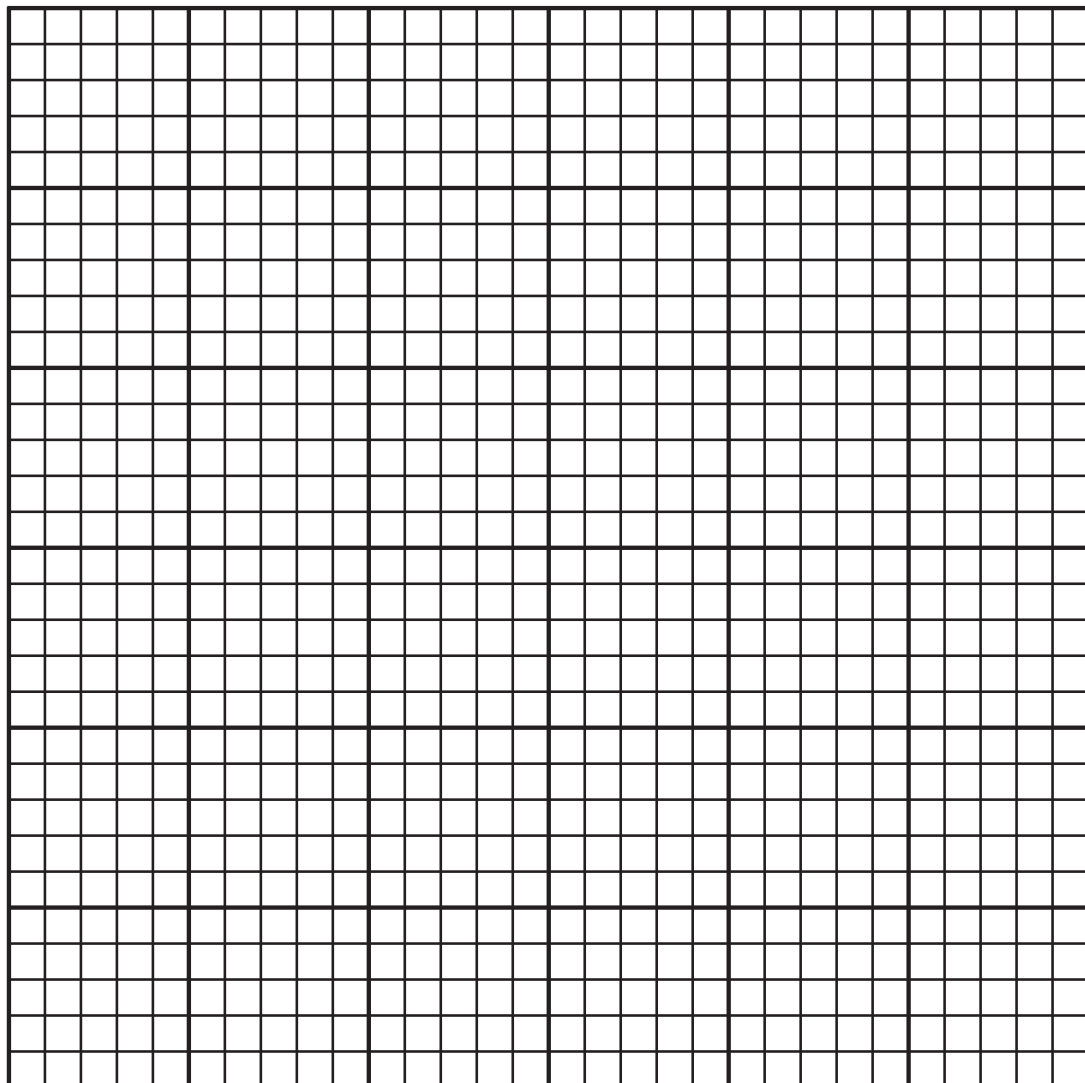
Clue:

This little piggy

```

                2                2 2
                2            1 2 1            1 1    2 2    1 1
            1 1 1 1 1 1 1 2 1 4    1            7 3 4 7 1 1 7 1 10 7
    1 1 1 1 2 3 1 2 1 2 2 1 3 1 2 1 7 2    1 4 2 6 7 7 9 10 1 10
    1 1 2 1 2 2 2 3 1 1 1 1 1 1 2 1 5 1 1 3 3 2 1 2 1 1 2 2 1 3
    3 2 1 3 1 2 2 2 1 1 3 3 3 4 4 4 2 4 2 2 2 2 2 2 3 3 3 3 3
    3 2 2 2 2 1 2 3 2 1 1 1 1 1 1 7 1 6 7 6 1 1 1 1 1 1 1 1 1
    
```

- 1, 2, 2, 4, 1, 1, 1, 3, 1
- 3, 2, 1, 3, 1, 3, 1, 4, 1
- 1, 1, 3, 1, 1
- 1, 4, 1, 1
- 1, 3, 1, 1, 1
- 4, 1, 1, 1
- 3, 3, 13
- 1, 2, 2, 1
- 2, 3, 1
- 1, 1, 2, 11
- 2, 2, 5, 9
- 2, 2, 9
- 2, 1, 3, 8
- 3, 4, 7
- 3, 4, 7
- 1, 1, 3, 2, 6
- 2, 1, 2, 1, 3, 4
- 7, 3, 4
- 10, 1, 3
- 2
- 1, 3
- 1, 3, 7
- 2, 3, 2, 1
- 7, 2
- 8
- 6, 3, 5
- 5, 3, 9
- 1, 1, 2, 2, 9
- 5, 3, 3
- 15, 10



	4		2					2
7			3			9		
						14		
					4			
	3					10		2
		5						
			2					7
	5					10		5
			7					
	3			3		11		

>> Corral

Draw a single loop along the grid lines such that each clue number can 'see' the given number of cells within the loop.

- > The number of cells that a clue can see is the total count of interior cells in both horizontal and vertical directions from that cell, including the clue cell itself. Look at the example below to see how this works.
- > The loop cannot touch or cross itself at any point - not even at a corner.

Hint: You will probably find it easier to solve by shading cells, as in the example, rather than by drawing in the loop.

7				3			6		
7								9	
									4
6									
		4			6			6	
	7			8			3		
									4
4									
	11								13
		4			6				8

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Puzzles by Jim Bumgardner

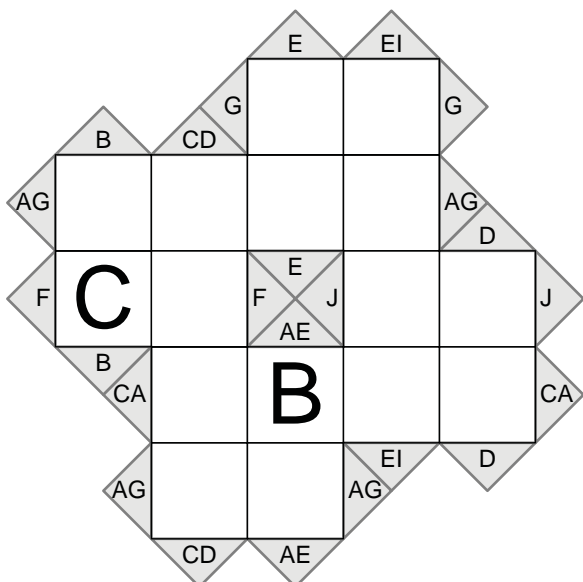
krazydad.com/puzzles

>> Krypto Kakuro

Krypto Kakuro puzzles are a cross between a crossword, a sudoku and a cryptogram.

> Each digit has been substituted with a letter. To solve the puzzle, you must figure out what digit each letter stands for, and then solve it like a regular kakuro puzzle.

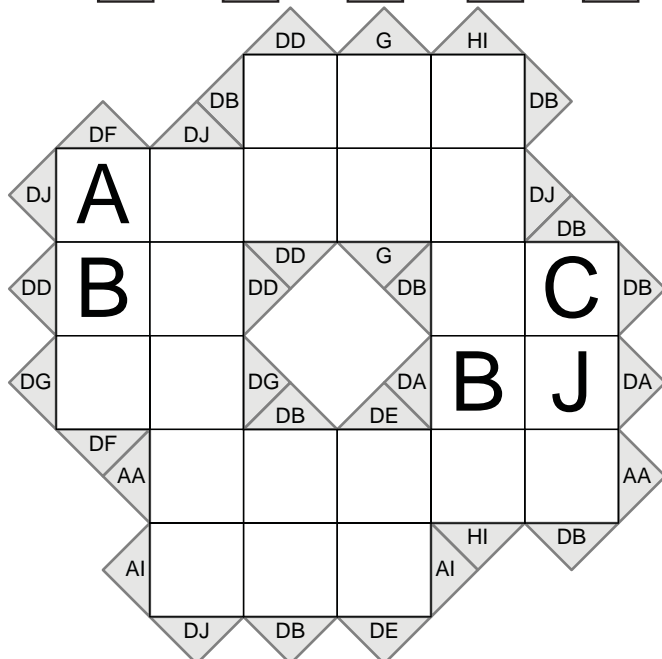
> Each "word" in the crossword contains only the digits 1 thru 9, and the same digit will never repeat within a word. The sum of the digits of each word are shown on the left and right sides of "across" words, and at the tops and bottoms of "down" words.



A B C D E
 F G H I J

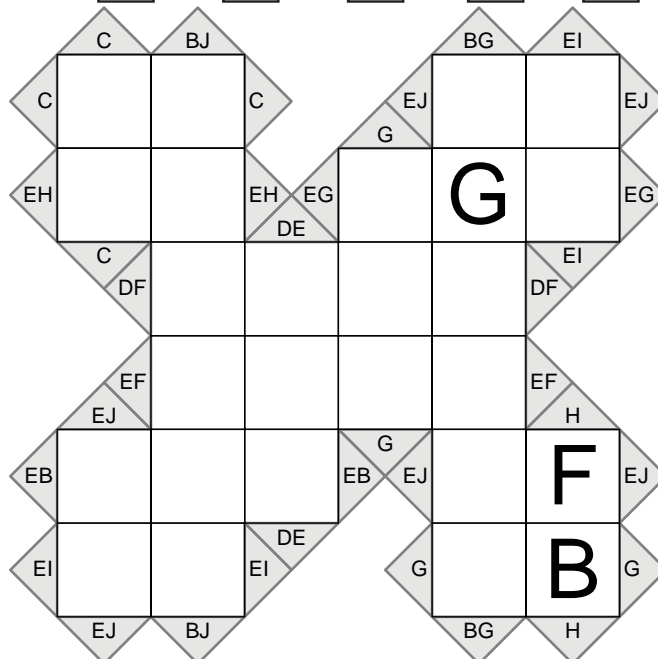
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A B C D E
 F G H I J



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A B C D E
 F G H I J



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Sudoku Xtra 45

Puzzle by Jim Bumgardner

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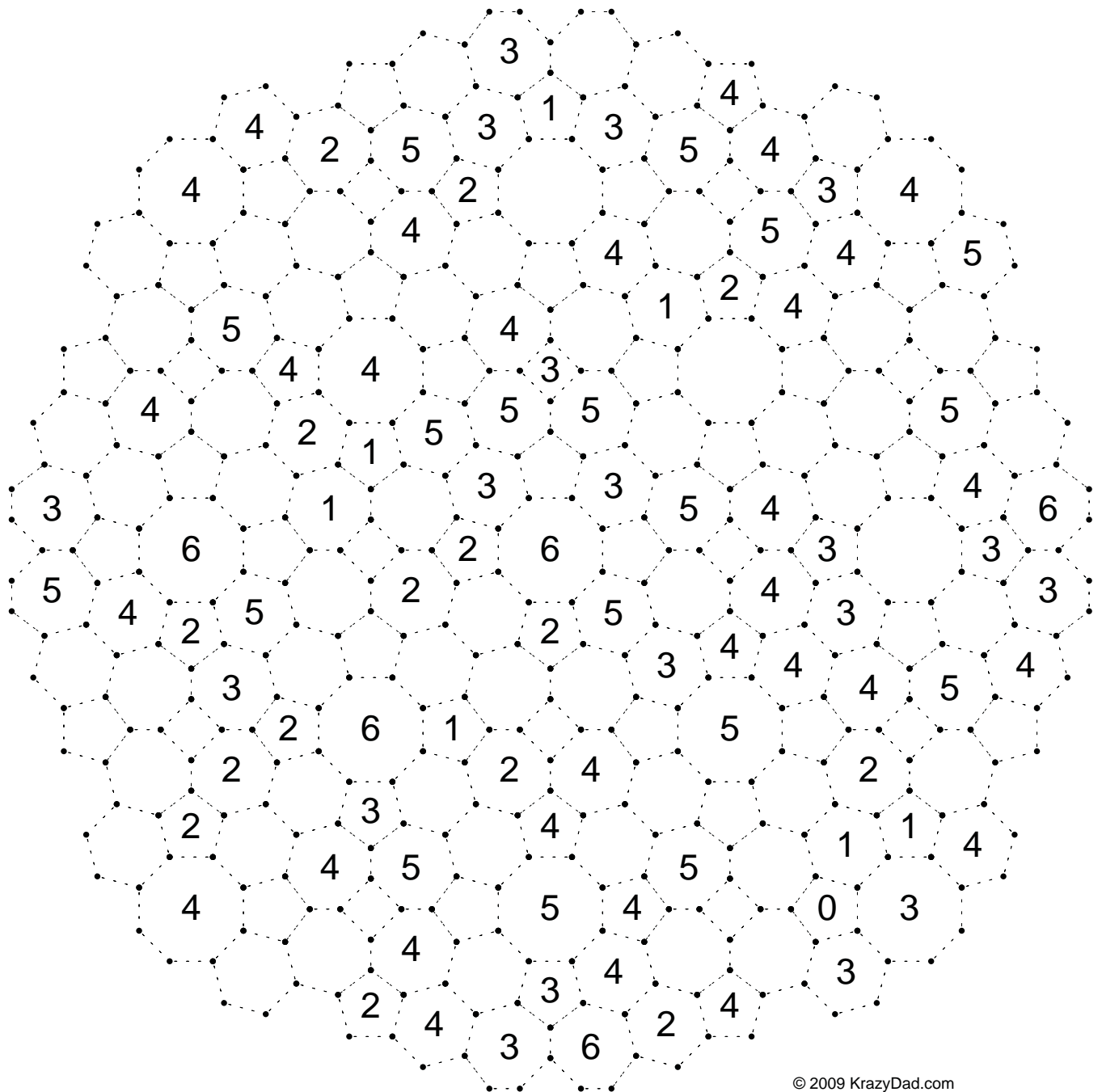
>> Altair Slitherlink

Fill in some of the dotted line segments to form a meandering path that forms a single loop.

> The path does not cross itself, branch, or touch itself at corners. The numbers indicate how many line segments surround each cell. Empty cells may be surrounded by any number of line segments.

This tiling is from a traditional Islamic design and appears in the books "Altair Design" by E. Holiday and "Arabic Geometrical Pattern and Design" by J. Bourgojn.

Need some solving help? Visit krazydad.com/slitherlink



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>> Feedback

If there are certain puzzles you'd like to see - or even not see! - in a future issue of Sudoku Xtra then why not send me an email and let me know? Just write to Gareth@SudokuXtra.com. Alternatively head on over to the Sudoku Xtra discussion forums at www.SudokuXtra.com/forum and join in the puzzle discussion. For example if you're stuck on a puzzle, why not ask for help? There are also announcements posted periodically giving details of future issues or related content, such as the Sudoku Xtra Specials books of particular Sudoku variants.

>> Getting hold of Sudoku Xtra

Issue 23 will be available in March 2013, but if you don't already have all twenty-two issues of Sudoku Xtra then there's no need to wait for more - just head over to www.SudokuXtra.com and you can get hold of the previous issues too!

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>> Xtra Calcudoku

Place **1 to 8** once each into every row and column.

> **Calcudoku** cages are given, where as usual there is **no restriction on repeating a number within a cage** but the given value must result when one of the four operations $+$, $-$, \times or \div is applied as given. For subtraction and division start with the highest value in the cage and subtract/divide by the rest.

> No number can repeat in a marked diagonal.

19+	2	4	8	5	7	105×	5+	18×	3	6	
12×	6	8	7	1	3	4	7+	5	2	2	
	1	2	18×	6	3	5	15+	7	8	3-	4
120×	3	7	42×	15×	2÷	8	8+	2-	6	2	1
	5	6	3	7	7×	1	2	4	8		
	8	3	1	2	96×	9+	4	5	18+	6	7
5+	4	1	6+	2	8	126×	6	3	7	5	
12+	7	5	4	6	48×	2	8	1	3		

192×	70×	144×		2÷	18+		12+
				12+		33+	
35+			7+	42×			
		30×		384×		0-	126×
5-	1-	280×					

>> Solutions for pages 1 to 5

For more puzzles check out
www.puzzlemix.com

3 2 5 2 7 5 3 7

3 3 3 3 4

		0		0					
1	3		2		1	1			
							0	2	
3		3	1			1			
		1			2			0	
		1	0	3				0	

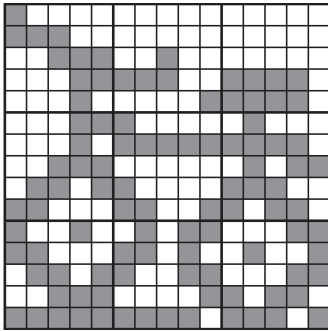
0	0		4						
3				1					
1					0				2
0					3				
		3	3	4					
				4					
2									2
2			3			2			
0			0						1
0			3						

11+	5	6	2	4	3	1	2+	6	1	3	4	5	2	4+	1	4	5	2	6	3	
1-	3	4	6	1	2	5	3-	2	3	5	1	4	6	3	11+	5	2	6	4	1	
3-	4	3	5	6	1	2	5	6	4	3	2	1	10x	5	2	4	1	3	6	6x	
	1	2	3	5	6	4	10+	4	2	1	5	6	3	8x	2	3	6	5	1	4	
4-	2	1	4	3	5	6	4	2	1	5	6	3	3	108x	3	6	5	1	4	4x	
6	5	1	2	4	3	1	5	2	6	3	4	1	1	6-	4	6	1	3	2	5	
														3x	1	3	2	5	7+		
														6-	6	1	3	4	5	2	20x

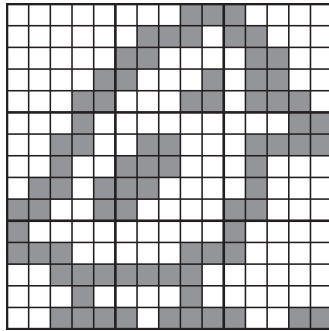
25x	17+			3+	12+			15+		8+	11+		3x	12x
		8x			10+	240x		1-	3-		1+		2+	
7-		20+	12x							6+		1344x		2x
8+				6+	7+					42x			13+	
10+		16x		19+	6+			3-	4-			28x	19+	
8x	3+		35x		1-					36x		9+	16x	
			6+	56x	30x			5x		12+		30x		
12+				336x						10+	18x		5-	

If you're enjoying the variety of puzzles in each issue of **Sudoku Xtra** then why not save a bit of money by signing up for a subscription on www.SudokuXtra.com. And that way you'll be automatically emailed each new issue, fresh off the virtual press!

>> Solutions for pages 22 to 26



Bicycle



Chick

2	3	4	6	1	5	1	4
4	5	6	2	1	6	3	2
1	4	1	2	3	6	3	0
2	4	4	1	4	0	3	5
1	2	2	5	2	5	0	0
3	6	5	6	6	6	5	1
0	3	0	4	3	0	5	0

1	1	2	0	6	1	4	3
5	5	6	6	0	4	1	0
3	4	2	2	2	5	6	3
5	2	1	2	3	3	3	0
0	4	2	5	6	6	0	0
3	4	1	5	0	2	5	5
4	6	1	4	6	1	3	4

2	6	2	2	2	6	2	2
5	1	0	4	3	6	4	2
0	0	1	3	5	5	0	1
4	4	1	0	6	1	3	3
3	5	6	5	4	1	0	5
3	4	2	4	5	1	6	1
6	4	0	0	3	6	5	3

5	2	6	4	3	1
3	1	4	5	2	6
6	5	2	3	1	4
4	3	1	2	6	5
1	4	3	6	5	2
2	6	5	1	4	3

4	>	3	2	5	<	6	1
1	6	5	>	4	2	<	3
3	5	4	2	>	1	6	
2	1	6	3	4	5		
5	2	1	6	3	<	4	
6	>	4	3	1	5	2	

2	5	6	3	1	4
3	4	5	1	6	2
1	6	2	4	3	5
5	1	4	6	2	3
6	2	3	5	4	1
4	3	1	2	5	6

Nurikabe
is the latest
puzzle added to
puzzlemix.com

3	5	2	4	1	6
6	1	4	2	5	3
2	6	5	1	3	4
1	4	3	6	2	5
5	2	6	3	4	1
4	3	1	5	6	2

5	4	3	2	1	6
2	6	1	5	4	3
3	1	5	4	6	2
4	2	6	1	3	5
1	3	2	6	5	4
6	5	4	3	2	1

6	4	3	2	1	5
5	2	1	4	3	6
1	6	5	3	2	4
4	3	2	5	6	1
3	5	6	1	4	2
2	1	4	6	5	3

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

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

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

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

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

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

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

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

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