

## Kakuro

Fill the grid so that each block adds up to the total in the box above or to the left of it. You can only use the numbers 1-9 and you must not use the same number twice in a block. (The same number may occur more than once in a row or column, but it must be in a separate block.)

### Example

Let's walk through a puzzle, highlighting the general principles. We've put in one complete answer. What else can be done? We've highlighted cells in which you can work immediately.

	1	2	3	4	5	6	7	8	9	10
1										
2	14			3	10	11	7	9	11	5
3	12	7	5	39	8	5		6		4
4	23			6	15	7	2		22	10
5		15		1		3		6	9	
6	11			3		10				
7	17			8	19					7
8		16	3	7			4	12		
9	29	9					3		6	
10	10	7			3	2	1		5	

**1** For a start, 2 completes the 3 sum (row two). This means 8 completes the 10 sum (column 5).

**2** Look around. See the 23 sum (row 4). 23 is made up of 6, 8 and 9. The only digit that can fit in the last cell – that would make the 10 sum in column 4 work – is the 6. (Try the 8: you can't find two different digits to complete the 10 sum in the required three cells.)

**3** Take the 24 sum (column 2). 24 is made up of 7, 8 and 9. The only place the 7 will fit is in the middle cell, the start of row three. (It can't go in the top cell, because that would make the second digit in that 14 sum a 7, too; and as we've said, there's no 7 in the 23 sum at the start of row 4.)

**4** Look again at the 10 (column four). We've put in a 6, leaving four to fit in the remaining two cells. Four in two digits must be 1 and 3. The 3 can't go in the second cell, because there is already a 3 in the intersecting answer.

Use these techniques to complete the other highlighted cells. Take into account that 39 in six cells is a Unique Digits Answer. (Check the table provided on the next page.)

	1	2	3	4	5	6	7	8	9	10
1										
2	14			3	2	1	22	7		
3	12	7	5	39	8	5		6		4
4	23			6	15	7	2		22	10
5		15		1		3		6	9	
6	11			3		10				
7	17			8	19					7
8		16	3	7			4	12		
9	29	9					3		6	
10	10	7			3	2	1		5	

**5** Where next? The highlighted cells marked below.

	1	2	3	4	5	6	7	8	9	10
1										
2	14			3	2	1	22	7		
3	12	7	5	39	8	5		6		4
4	23			6	15	7	2		22	10
5		15		1		3		6	9	
6	11			3		10				
7	17			8	19					7
8		16	3	7			4	12		
9	29	9					3		6	
10	10	7			3	2	1		5	

The top-right corner. The top-right cell is 1. For the 7 in this corner (row two) we have to place a 2 and a 4. Only the 2 can fit in the top cell on column eight. This gives us the opportunity to place a few more digits.

**6** Moving to the top-left, we have to place the 8 and 9 of the 24 sum (column two). The 9 won't fit in the top cell, because that would force a 5 into the second cell of row two, and we've already placed a 5 in an intersecting answer.

**7** This line of enquiry resolves a few more digits. Take the 17 (row seven). By this time, we should have placed an 8 in column three. As 17 is made up of 8 and 9, we know the order of the digits.

**8** From here, we can resolve the 11 sum in row 6. And as a result of doing this, we can also resolve the 15 in row 5.

**9** Now look at the 7 sum in row eight. Remember, 7 is made up of 1, 2 and 4. We know that only 1 or 4 could fit the third cell. (There's a 2 in an intersecting answer.)

	1	2	3	4	5	6	7	8	9	10	
1		24	33		10	11		9	11	5	
2	14	8	6	3	2	1	22	7	2	4	1
3	12	7	5	10	39	8	5	9	6	7	4
4	23	9	8	6	15	7	2	4	1	22	10
5		15	4	1	2	3	5	9			
6	11	2	1	3	5	10	22				
7	17	8	9	8	19						7
8		16	3	7	2	1	4	4	12		
9	29	9	1	5				3		6	
10	10	7	2	1	3	2	1	5			

**10** As a final tip, consider the 22 in column six. You've already placed a 2 and a 4. That leaves 16 to be placed in two digits. Two digits make up 16, a 9 and a 7. And in view of the answers that are already in, there's only one place they can go. From here, you should be able to solve the rest of the puzzle... The solution is given below, but I'm sure you won't need it! Good luck!

	24	33		10	11		9	11	5	
14	8	6	3	2	1	22	7	2	4	1
12	7	5	10	8	5	9	6	7	4	
23	9	8	6	15	7	2	4	1	22	10
	15	4	1	2	3	5	9	3	6	
11	2	1	3	5	10	3	1	2	4	
17	8	9	8	19	3	9	1	2	4	7
	16	3	7	2	1	4	4	3	7	2
29	9	1	5	4	7	3	6	5	1	
10	7	2	1	3	2	1	5	1	4	

### Unique Digit Answers

For some numbers, only one combination of digits is possible. Here's a useful table of Unique Digit Answers. Look out for these in the puzzles that follow. They'll be a great help to you.

#### 2 cells

Sum	Numbers
3	1,2
4	1,3
16	7,9
17	8,9

#### 3 cells

Sum	Numbers
6	1,2,3
7	1,2,4
23	6,8,9
24	7,8,9

#### 4 cells

Sum	Numbers
10	1,2,3,4
11	1,2,3,5
29	5,7,8,9
30	6,7,8,9

#### 5 cells

Sum	Numbers
15	1,2,3,4,5
16	1,2,3,4,6
34	4,6,7,8,9
35	5,6,7,8,9

#### 6 cells

Sum	Numbers
21	1,2,3,4,5,6
22	1,2,3,4,5,7
38	3,5,6,7,8,9
39	4,5,6,7,8,9