KenKen Example – Math 46

2	2–	2÷	24×
3–			
	7+		
1–		5+	

Here's an example of how to solve – and explain your solution – for a KenKen puzzle. We can use the symbol (a,b) to indicate the entry in row a, column b, rows counted from top down, columns counted from left to right. Thus the (1,2) and (2,2) entries make up the 2– cage. Try to solve this one on your own before looking at the solution below.

2 2	2–	2÷	24×
3– 4			
1	7+ 3,4	4,3	2
1– 3		5+	

First fill in the 2 cage. The 3– cage below it can only contain 1 and 4, so the (4,1) entry must be 3. Because the 7+ cage can only contain 3 and 4, and the (3,1) entry must be 1 or 4, we know that the (3,1) entry must in fact be 1 and the (2,1) entry must be 4. This forces the (3,4) entry to be 2 also.

2 2	2– 1,3	2÷	24×
3– 4	3,1		
1	7+ 3,4	4,3	2
1– 3	2	5+ 1,4	4,1

The 5+ cage can contain 1 and 4 or else 2 and 3; however, 3 is already placed in the 4th row, so the 5+ cage can contain only 1 and 4, and the (4,2) entry must be 2. The 2– cage can contain 1 and 3 or else 2 and 4, but 2 already appears in that column, so the 2– cage must contain 1 and 3.

2 2	2– 1,3	2÷	24× 4
3– 4	3,1		3
1	7+ 3,4	4,3	2
1– 3	2	5+ 1,4	4,1

The other two entries in the 24X cage must have a product equal to 24/2 = 12, so they must be 3 and 4; however, row 2 already contains 4, so (2,4) must be 3 and (1,4) must be 4.

2 2	2– 3	2÷ 1	24× 4
3– 4	1	2	3
1	7+ 4	3	2
1– 3	2	5+ 4	1

Now we can complete the puzzle. The (2,2) entry cannot also be 3, which appears in the 4th column, so it must be 1, and the (1,2) entry must be 3. These force the (2,3) entry to be 2, and the (1,3) entry to be 1. In the 7+ cage the (3,2) entry must be 4, and the (3,3) entry must be 3. In the 5+ cage in row 4, the (4,3) entry must be 4, and the (4,4) entry must be 1.