

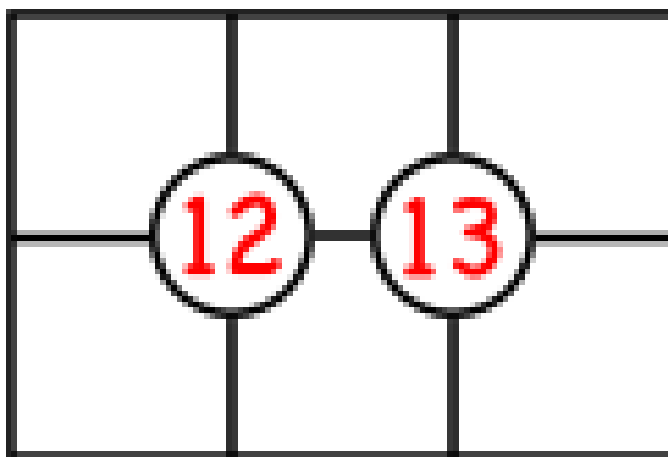
# Puzzle of the Week

## *Sujiko Puzzle – 1*

In this small 2 by 3 Sujiko puzzle, use each of the numbers from 1 to 6 once in the six squares. The number in each circle must be the sum of the four squares that surround it.



**THE CHALLENGE:** Fill in this Sujiko puzzle.



1 2 3 4 5 6

**EXPLORATION:** How many different answers can you find?

## Puzzle of the Week

# *Sujiko Puzzle – 1 – Notes*

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**THE CHALLENGE & EXPLORATION:** Each column of numbers - the 2 and 6, the 1 and 3, and the 4 and 5 - can be reversed in the answer given below. This produces a collection of  $2 \times 2 \times 2 = 8$  possible answers, one of which is shown below.

6	1	4
2	3	5

The diagram shows a 2x3 grid of numbers. The top row contains 6, 1, and 4. The bottom row contains 2, 3, and 5. The numbers 12 and 13 are written in red circles in the center of the grid, overlapping the intersections of the middle column and the two rows.

The 1 and 3 must be in the middle column. Call the middle numbers A and B. Add things up in two ways. The sum of all the entries in the two 2 by 2 squares is  $12 + 13 = 25$ . On the other hand, that sum is all six numbers (1 to 6) with the middle column counted twice - that is, the sum is  $1 + 2 + 3 + 4 + 5 + 6 + A + B = 21 + A + B$ . This means  $25 = 21 + A + B$ , or  $4 = A + B$ . This forces A and B to be 1 and 3.

With the middle column being 1 and 3, that forces the sum of the two entries in the right column to be 9. We can only get 9 as  $4 + 5$  or  $3 + 6$ , but the 3 is already used. Therefore the rightmost column is 4 and 5.

There are only two numbers, 2 and 6, remaining for the leftmost column, and they work.