

DISCUSSION FOR NINTH TUTORIAL

DATE: FEBRUARY 13, 2012 OR FEBRUARY 27, 2012 : DUE IN TUTORIAL MARCH 5 OR MARCH 12, 2012

Think of a number between 1 and 26. Look at the following table of six squares, one square at a time.

1	4	7	2	5	8	3	4	5
10	13	16	11	14	17	12	13	14
19	22	25	20	23	26	21	22	23
6	7	8	9	10	11	18	19	20
15	16	17	12	13	14	21	22	23
24	25	26	15	16	17	24	25	26

Each time the number you have picked belongs to one of the squares, write down the number in the top left-hand corner. Add together all these numbers. For example, 16 is in the first, fourth, and fifth squares. If the first numbers of each of these squares are added together, we get $1 + 6 + 9 = 16$, which is the original number we picked. Can you explain this?

Now generalize this setup. Is there a reason it was done with the numbers 1 through 26? Can you modify the problem so that it works with a smaller and/or a larger collection of numbers?