

Group theory :

Any set of elements is called group if, among others properties , the combination between them always results in a member of the group . It is a closed society .

Let's do an example. with the “sum” operator

First we add the members of each grid (horizontal with verticals) and from the result we subtract the highest value close to the minimum next divisible by 5 (the oldest element of the group):

0, 5, 10, 15, 20, 25, 30...

Let's proceed :

+	0	1	2	3	4	5
0	0+0 → 5-0=5	0+1 → 5-1=4	0+2 → 5-2=3	...	...	...
1	1+0 → 5-1=4	1+1 → 5-2=3	...	...	...	...
2	...	...	...	...	...	...
3	...	...	...	...	...	...
4	...	...	...	...	...	...
5	...	...	...	...	...	...

When the sum exceeds “5” then us we direct to subtract to the next minimum multiple of 5: “10”.

Now we will use the operator multiplication :

This time the number maximum is “6”; we will apply the same laws of the previous table (remember that they are now multiples of “6”: 12, 18, 24... and we will subtract from them one divisible by 6).

X	1	2	3	4	5	6
1	... 5	... 4	... 3	... 2	... 1	... 6
2	... 4	... 2	... 6	... 4	... 2	... 6
3	... 3	... 6	... 3	... 6	... 3	... 6
4	... 2	... 4	... 6	... 4	... 2	... 6
5	... 1	... 2	... 3	... 2	... 1	... 6
6	... 6	... 6	... 6	... 6	... 6	... 6