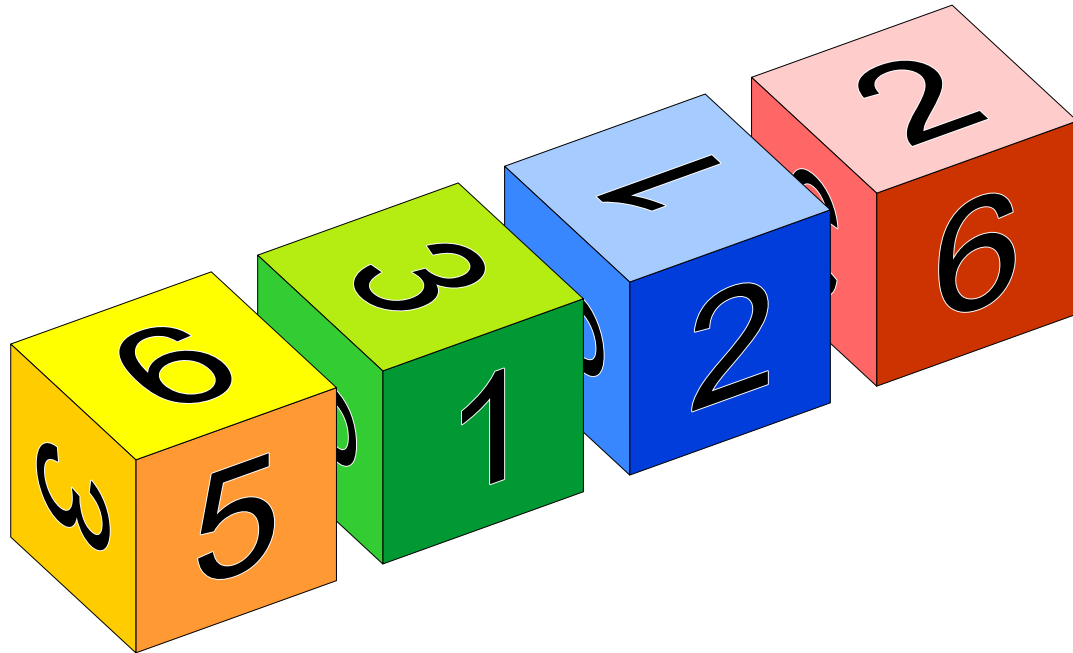


Suppose you have a set of four dice, not marked with spots in the ordinary way, but with the digits as shown in the illustration. Each die has the digits 1 to 6 on its respective faces.

When put together the four dice form plenty of different four-figure numbers. One of them - 1246 - is shown in the illustration.

The question is if one makes all the different four-figure numbers that are possible with these dice (never putting the same figure more than once in any number), what will they all add up to? It is allowed to turn the 6 upside down, so as to represent a 9.

Seems, it should take a lot of work to go and write out the full list of numbers and then add them up. Instead, there should be at least some other way to get at the answer. Can you find it?



The sum of all the numbers that can be formed with any given set of four different figures is always 6,666 multiplied by the sum of the four figures. Thus, 1, 2, 3, 4 add up 10, and ten times 6,666 is 66,660. Now, there are thirty-five different ways of selecting four figures from the seven on the dice—remembering the 6 and 9 trick. The figures of all these thirty-five groups add up to 600. Therefore 6,666 multiplied by 600 gives us 3,999,600 as the correct answer.