Problem of the Week

Problem D

Arranging Tiles 2

Hugo has a box of tiles, each with an integer from 1 to 9 on it. Each integer appears on at least six tiles. Hugo creates larger numbers by placing tiles side by side. For example, using the tiles 3 and 7, Hugo can create the 2-digit number 37 or 73.

Using six of his tiles, Hugo forms two 3-digit numbers that add to 1234. He then records the sum of the digits on the six tiles. How many different possible sums are there?