1*). Write an explicit formula for a bijection between the set \(\mathbb{N}\) of natural numbers and the set \(\mathbb{Z}\) of integer numbers

2*). Find and justify as many as you can relations involving the algebra of sets operations: the union \(\cup\), the intersection \(\cap\), the difference \(\setminus\), the symmetric difference \(\Delta\) and the complement \(C\).

3. Find a bijection between the open interval \((0, 1)\) and the closed interval \([0, 1]\).

4. Find a bijection between the set \(\mathbb{R}\) of all real numbers and and the closed interval \([0, 1]\).

5*). Consider any configuration of disjoint open discs on the plane. Prove that the number of discs in such a configuration is finite or countable

6. Consider any configuration of disjoint figure eights on the plane. Prove that the number of elements in such a configuration is finite or countable.

7**). Consider any configuration of disjoint letters "T" on the plane. Prove that the number of elements in such a configuration is finite or countable.

*)Due on Monday January 26.