Let's consider the set formed by pairs of integers. That is, the couples (a,b), being a and b integers, and b≠0. And as is natural, we will associate the fraction ab with the pair (a,b).

The fraction m·am·b, being m an integer, is equal to the fraction ab and in this sense we must think that the pair (m·a,n·b) and the pair (a,b) are the same.

This property corresponds to say that two pairs (a,b) and (c,d) are equal if it is satisfied that a·d=c·b, or equivalently: a·d−c·b=0

Then the pairs of integers, consider the couples that should satisfy the previous property as equals, correspond to the fractions as we have presented them.

We can define the operations of pairs of numbers in the same way that we have done for fractions.