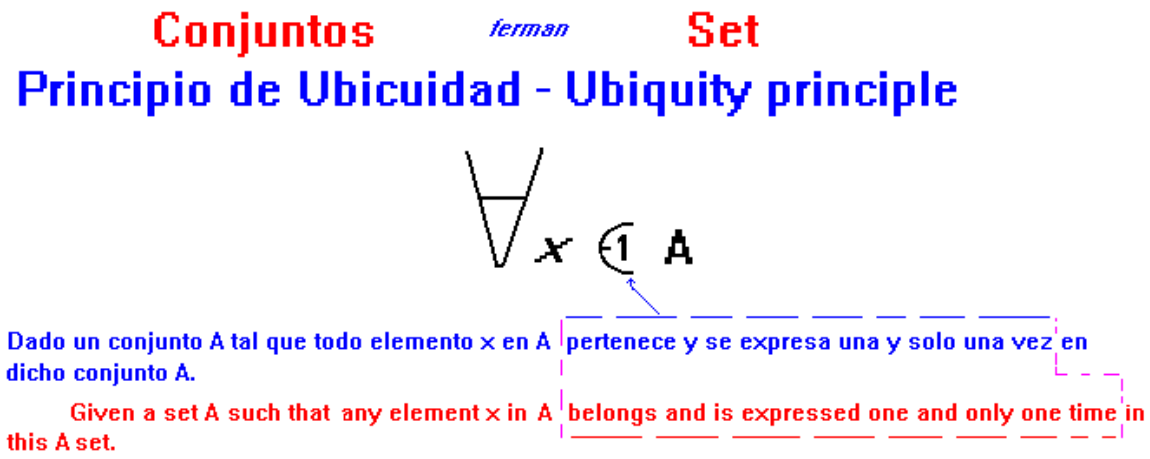
Ubiquity principle of Set.

Of ferman: Fernando Mancebo Rodriguez

"No physical element can be included twice or more in the same set"
Although any element can belong to several set.

For example
The Eiffel tower can't be included two times inside the set of Paris monuments.
-- A (Eiffel tower, Eiffel tower)
But it can be included inside two different sets A and B,
-- A (monuments of France) and B (monuments of Paris).



This way, if we observe two or more equal elements inside a set, this mean that these aren't the same element, but several similar ones.

Algebraic product of sets *ferman*

Ubiquity Principle of the physical elements

"Every physical element can't be in two or more places at the same time"

$$A\,(a,b,c,\cancel{a})$$

$$A\,(a,b,c) \times B\,(d,c) = A\,(a,b,c) \times B\,(d,\cancel{c}) =$$

$$(a,b,c) \times (d) = (da, db, dc)$$

$$A^2 \quad A\,(a,b,c) \times A\,(a,b,c) =$$

$$A\,(a,b,c) \times A\,(\cancel{a},\cancel{b},\cancel{c}) = A^N\,(abc)$$

With quantities

Quantities are not subject to the Ubiquity principle when they aren't physical elements

$$\begin{array}{r} 5,\ 6 \\ \times\ 5,\ 6 \\ \hline 25,\ 30,\ 30,\ 36 \end{array}$$

Algebraic product of sets *ferman*

Ubiquity Principle of the physical elements

"A physical element can't be in two or more times in the same set "

$$A\,(a,b,a,b,c,\cancel{a})$$

Same a

$$B\,(\ boy,\ boy,\ boy,\ boy,\ \cancel{boy},\ boy,\ )$$

Peter, John, Jose, Miguel, ~~Peter~~, Fernando

Same boy

In product

$$3 \times A\,(rabbit) = 3A\,(rabbit,\ rabbit,\ rabbit)$$

Same rabbit — Addition element — Addition element

As we can see, the number could not be considered as physical elements, but alone as abstract and operative quantities.
But more correctly, we say that any number represents to different physical elements or quantities, although it has the same mathematical value. This way, the same number can be included two or more time in the same set,

A (5, 4, 7, 4, 5)

But not when they are representative of the same elements.
For example, if we have 5 apples, we can't put two times these 5 apples en the same set.

A (5 apples, 3 carrots, 5 apples)

If we include two times 5 apples, these immediately say us that these are really 10 different apples, forming two sub-sets of 5 apples each one.

In this sense I think that the current set theory has lacks and contradictions not suitable with a good mathematical set theory.

Let us give an example:

Given a set, which could represent to my accompany pets. Say, a dog, a cat, two hens and a parrot.

A (dog, cat, 2 hens, parrot) = (dog, cat, hen, hen, parrot)

In this case, the Ubiquity Principle tells us that we cannot include the cat twice in my set of company animals, because alone I have a cat.
Also, this tells us that if I have two hens it is because they are TWO animals of the same class, and of course, they are not the same hen.

In the same way, if I have a basket with fruit consistent in the following set:

A (basket, apple, pear, banana, pear, apple, apple, pear, banana)

This set says us that I have: A basket with 3 apples, 3 pears and 2 bananas.

But the current theory says us that I have: A basket, 1 apple, 1 pear, and 1 banana. And this proposal is incorrect.