Ordinal number

In set theory, an ordinal number, or ordinal, is one generalization of the concept of a natural number that is used to describe a way to arrange a collection of objects in order, one after another. Any finite collection of objects can be put in order just by the process of counting: labeling the objects with distinct natural numbers. Ordinal numbers are thus the "labels" needed to arrange collections of objects in order.

An ordinal number is used to describe the order type of a well-ordered set (though this does not work for a well-ordered proper class). A well-ordered set is a set with a relation > such that

Trichotomy For any elements x and y, exactly one of these statements is true x > y y = x y > x