The Official Definition of Ordinal

Every mathematically significant feature of the ordinals follows Ordinal Well-Ordering, together with the following principle:

Set-transitivity

Every element of an element of an ordinal α is an element of α.

As a result, set-theorists often define ordinals on the basis of Ordinal Well-Ordering and Set-Transitivity:

Official Definition

An ordinal is a set that is set-transitive and well-ordered by $<_o$.

(This assumes that we restrict our attention to pure sets: sets such that all their members are sets, all the members of their members are sets, all the members of their members of their members are sets, and so forth.)

Unless you want to go deep into the material, though, you won't need to worry about this definition. Just think of the ordinals as generated by the construction in Lecture 2.2.6.

Problem 1

1 point possible (ungraded)

Justify Set-Transitivity on the basis of the intuitive picture of ordinals we developed in Lecture 2.2.6.

- [ ] Done

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