



Math for the people, by the people.

## example of universe

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The simplest example of a universe consists of all sets gotten by starting with the empty set and repeatedly aggregating sets already known to lie in the universe. That is to say, starting with  $\emptyset$ , we first form  $\{\emptyset\}$ . Given these two elements of our universe, we can then form  $\{\{\emptyset\}\}$  and  $\{\emptyset, \{\emptyset\}\}$ . Given these four elements, we then can form  $\{\{\{\emptyset\}\}\}$ ,  $\{\emptyset, \{\{\emptyset\}\}\}$ ,  $\{\{\emptyset, \{\emptyset\}\}\}$  and several other sets. We can repeat this process to obtain an infinite collection of finite sets.

The set considered here also happens to be the set  $V_\omega$  in the cumulative hierarchy.