

## The Empty Set

There is one special set that unfortunately has not only two names but also two symbols. This is the set with no elements in it. It is called the empty set or the null set. The symbol for this set is either  $\emptyset$  or  $\{ \}$ . We use either name, the empty set or the null set, to mean the same thing. We use either symbol,  $\emptyset$  or  $\{ \}$ , to mean the same thing.

One way to help understand the empty set is to look at the set  $\{\emptyset\}$ . This is not the empty set! This is a set that has one element in it, namely, the empty set. If we want a weird set that has two elements in it we might make the following set  $\{\emptyset, \{\emptyset\}\}$ ; this is a set that has one member that is the empty set, and a second member that is the set that has one member, namely the empty set.