



ACCOUNTS

Why

We want to succinctly and clearly make several statements about objects and sets. We want to track the names we use, taking care to avoid using the same name twice.

Definition

An *account* is a list of naming, logical, and quantified statements. We use the words “let $_$ denote an $_$ ” to introduce a name as a placeholder for a thing, and we use the symbols $_ = _$ and $_ \in _$ to denote statements of identity and belonging. In other words, we have three sentence kinds to record.

1. **Names.** State we are using a name.
2. **Identity.** We want to make statements of identity.
3. **Belonging.** We want to make statements of belonging.

Our main purpose is to keep a list names and logical statements about them and then deductions. We want to group our usage of names. In the English language we use paragraphs or sections to do so. In these sheets, we will use *accounts*, which will be a list of statements, each of which is labeled by an Arabic numeral (see *Letters*).

Experience suggests that we start with an example. Suppose we want to summarize the following english language description of some names and objects.

Denote an object by a . Also, denote the same object by b . Also, denote a set by A . Also, the object denoted by a is an element of the set denoted by A . Also denote an object by c . Also c is the same object as b .

In our usual manner of speaking, we drop the word “also”. In these sheets, we translate each of the sentences into our symbols. For names we use, we write **name** in that font followed by the name. For logical statements we “have”, we write **have** followed by the logical statement. So we write:

Account 1. First Example

1	name	a	
2	name	b	
3	have	$a = b$	
4	name	A	
5	have	$a \in A'$	
6	name	c	
7	have	$c = b$	
8	thus	$a = c$	by 3,7

