Why

We (still) want to talk and write about things.

Names

As we use sounds to speak about objects, we use symbols to write about objects. In these sheets, we will mostly use the upper and lower case latin letters to denote objects. We sometimes also use an *accent* $'$ or subscripts or superscripts. When we write the symbols we say that the composite symbol formed *denotes* the object. We call it the *name* of the object.

Since we use these same symbols for spoken words of the English language, we want to distinguish names from words. One idea is to box our names, and agree that everything in a box is a name, and that a name always denotes the object. For example, $\boxed{\text{A}}$ or $\boxed{\text{A'}}$ or $\boxed{\text{A}_0}$. The box works well to group the symbols and clarifies that $\boxed{\text{A} \mid \text{A}}$ is different from $\boxed{\text{AA}}$. But experience shows that we need not use boxes.

We indicate a name for an object with italics. Instead of $\boxed{\text{A'}}$ we use A', instead of $\boxed{\text{A}_0}$ we use A_0. Experience shows that this subtlety is enough for clarity and it agrees with traditional and modern practice. Other examples include A'', A''', A'''', B, C, D, E, F, f, f' f_a.

No repetitions

We never use the same name to refer to two different objects. Using the same name for two different objects causes confusion. We make clear when we reuse symbols to mean different objects. We tend to introduce the names used at the beginning of a paragraph or section.

Names are objects

There is an odd aspect in these considerations. The symbol A may denote itself, that particular mark on the page. There is no helping it. As soon as we use some symbols to identify any object, these symbols can reference

themselves.

An interpretation of this peculiarity is that names are objects. In other words, the name is an abstract object, it is that which we use to refer to another object. It is the thing pointing to another object. And the marks on the page which are meant to look similar are the several uses of a name.

Names as placeholders

We frequently use a name as a *placeholder*. In this case, we will say "let A denote an object". By this we mean that A is a name for an object, but we do not know what that object is. This is frequently useful when the arguments we will make do not depend upon the particular object considered. This practice is also old. Experience shows it is effective. As usual, it is best understood by example.

Names

Letters   Objects