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### 0.1 Equivalence classes

We have already ready defined the relationship equality, between terms.

$$a = b.$$

Sometimes we may wish to talk about a collection of terms which are all equal to each other. This is an equivalence class.

Though we have not yet defined it, integers are example of this. For example  $-1$  can be written as  $0 - 1$ ,  $1 - 2$  and so on.

$$\forall y \text{ for all } x x = y \rightarrow x \in z$$

For all sets, we can call the class of all sets equal to the set an equivalence class.

This does not necessarily exist.