Why

We consider elements of one set which are not contained in another set.

Definition

Let A and B denote sets. The *difference* between A and B is the set $\{x \in A \mid x \notin B\}$. In other words, the difference between A and B is the set of all points of A which do not belong to B.

It is not necessary that $B \subset A$; the difference is called *proper* if $A \supset B$. This terminology is from that of proper subsets.

Notation

We denote the difference between A and B by $A - B$. Other notations used include $-$ or $\sim$.[1]

Properties

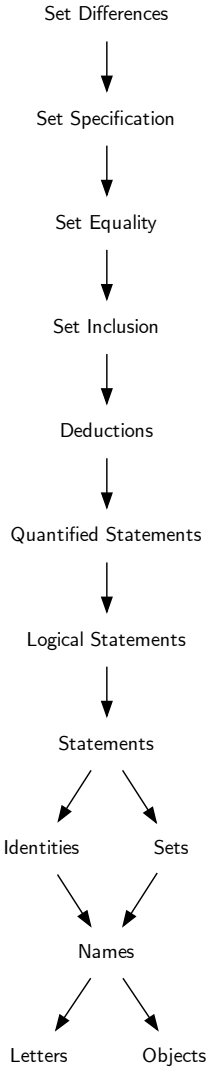
The following are straightforward.[2]

Proposition 1. $A - \varnothing = A$

Proposition 2. $A - A = \varnothing$

[1] The first will conflict with convenient notation for the difference of two sets of vectors. The second will conflict with convenient notation for equivalence relations .

[2] Accounts will appear in future editions.


Set Differences
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects