Definition

A *set ring* (or *Boolean set ring*, *ring of sets*, *Boolean ring of sets*) is a nonempty set of sets R such that if

$$E \in R \quad \text{and} \quad F \in R$$

then

$$E \cup F \in R \quad \text{and} \quad E - F \in R.$$

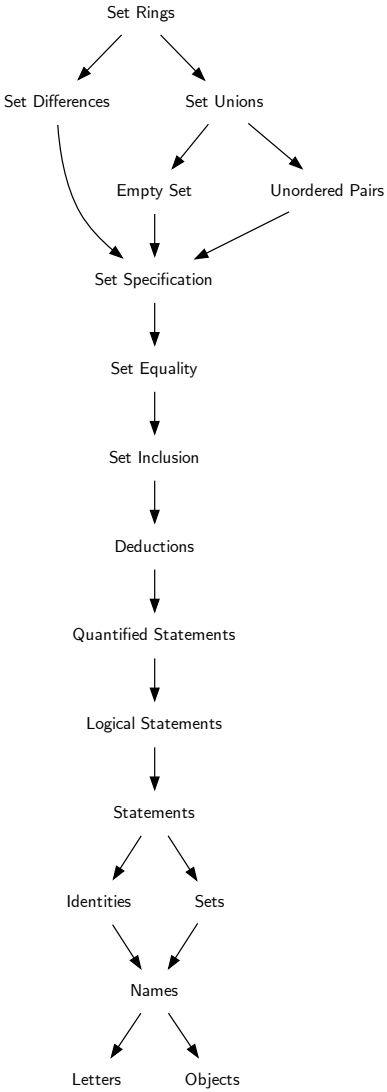
In other words, a ring is a nonemptyset of sets which is closed under unionsand differences.

Every ring contains the empty set, for if $E \in R$, then $E - E = \varnothing \in R$.

Also, since

$$E - F = (E \cup F) - F,$$

every nonempty set that is closed under unions and *proper* differences is a ring.


Set Rings
Set Differences
Set Unions
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects