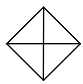


Why

We are often interested in a set of subsets of a given set.

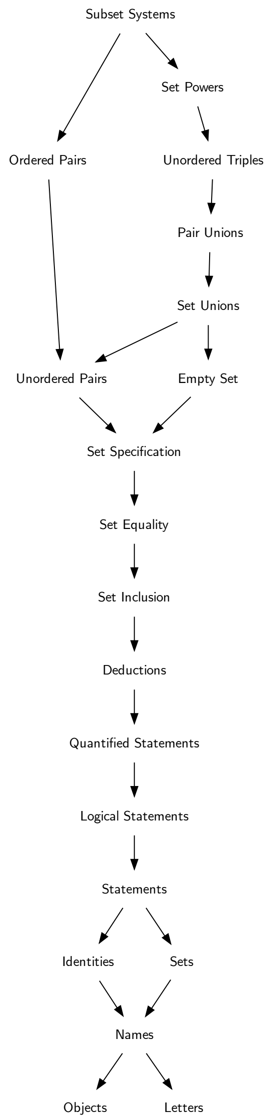
Definition

Let A be a non-empty set. A *subset system* (or *set system*) is a pair $(A, \mathcal{A})$ in which $\mathcal{A} \subset \mathcal{P}(A)$. In this common case we call the first set the *base set* and the second set the *distinguished subsets*. A subset of $B \subset A$ which is not *distinguished* (i.e., $B \notin \mathcal{A}$) is called *undistinguished*.

Example 1. *Let A be a nonempty set. Let $\mathcal{A}$ be $\mathcal{P}(A)$. Then $(A, \mathcal{A})$ is a subset system.*

Other terminology

Other terminology refers to $(U, \mathcal{F})$ as a *set system* when U is a nonempty finite set and $\mathcal{F}$ is a family of subsets of U. Set systems are also known as *hypergraphs*.


Subset Systems
Set Powers
Ordered Pairs
Unordered Triples
Pair Unions
Set Unions
Unordered Pairs
Empty Set
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Objects
Letters