The Axioms of Set Theory.

Equality

(1) (Extensionality) Two sets are equal if they have the same elements.

Existence of Special Sets

(2) (Empty Set) There is a set with no elements.

(3) (Infinity) There is an inductive set.

Creation of New Sets

(4) (Pairing) Given sets A and B, there is a set whose only elements are A and B. (I.e., the unordered pair $\{A, B\}$ is a set.)

(5) (Union) Given a set A, the collection of all elements of elements of A is a set. It is denoted $\bigcup A$ and called the union of A.

(6) (Power Set) Given a set A, the collection of subsets of A is a set. It is denoted $\mathcal{P}(A)$ and called the power set of A.

(7) (Separation) Given a set A and a property P given by a formula, there is a set whose elements are exactly those elements of A that satisfy P. ($\{x \in A \mid P(x)\}$ is a set.)

(8) (Replacement) Given a set A and a function F given by a formula, then $\{F(x) \mid x \in A\}$ is a set.

(9) (Choice) Given $A = \{X_i \mid i \in I\}$, a set of nonempty pairwise-disjoint sets, there is a set C that intersects each X_i in exactly one element.

Sets have Special Properties

(10) (Foundation) If A is a nonempty set, then there is an $x \in A$ such that x and A are disjoint. x is called an $\in$-minimal element of A.