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)[1] There is a set with no elements.
(Call it the *emptyset* and denote it by $\emptyset, \{\ \}$ or 0.)

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

Creation of New Sets

(4) (Pairing) If A and B are sets, then $\{A, B\}$ is a set.

(5) (Union) If I is a set, and A_i is a set for each $i \in I$, then $\bigcup_{i \in I} A_i$ is a set.

(6) (Power Set) If A is a set, then $\mathcal{P}(A)$ is a set.

(7) (Comprehension) If A is a set and P is a property given by a formula, then $\{x \in A \mid P(x)\}$ is a set.

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

(9) (Choice) If $\{A_i \mid i \in I\}$ is set of nonempty disjoint sets, then there is a set C such that $|A_i \cap C| = 1$ for every i.

Sets have Special Properties

(10) (Foundation) If A is a nonempty set, then there is a set $B \in A$ such that $A \cap B = \emptyset$.
(This axiom allows us to assign an ordinal rank or "creation stage" to any set, so that every set has larger rank than its elements.)

[1]Our book calls this the "Axiom of Existence" because, in the presence of the Axiom (7), Axiom (2) is equivalent to the statement "There exists a set".