Section 2.3 <u>More Operations on Sets</u>

The <u>power set</u> of a set A, denoted $\mathcal{P}(A)$, is the set of all subsets of A.

A <u>family of sets</u> is a collection of sets.

Let $\mathcal{A}$ be a family of sets. $\displaystyle\bigcup_{A \in \mathcal{A}} A = \{x : \exists A \in \mathcal{A} \text{ such that } x \in A\}$ and $\displaystyle\bigcap_{A \in \mathcal{A}} A = \{x : \forall A \in \mathcal{A}, x \in A\}$.