

**Definition FS.3.1:**  $A \approx B$  if and only if there exists  $f$  such that  $f$  is a bijection from  $A$  to  $B$ .

**Definition FS.3.2:**  $x \leq y$  if and only if there exists  $z \subseteq y$  such that  $x \approx z$ .

**Definition FS.3.3:**  $A < B$  if and only if  $A \leq B$  and it is not the case that  $B \leq A$ .

**Definition FS.3.4:**  $x$  is a *minimal element* of  $A$  if and only if  $x \in A$  and for every  $y \in A$ , it is not the case that  $y \in x$ .

**Definition FS.3.5:**  $x$  is a *maximal element* of  $A$  if and only if  $x \in A$  and for every  $y \in A$ , it is not the case that  $x \in y$ .

**Definition FS.3.6:**  $x$  is *finite* if and only if for every  $A \neq \emptyset$ , if  $A \subseteq \wp(x)$  then there exists  $y \in A$  such that  $y$  is a minimal element of  $A$ .

**Definition FS.3.7:**  $x$  is *finite* if and only if for every  $y \subseteq x$ , if  $y \neq x$  then it is not the case that  $x \approx y$ .