1. (a) State the definition of an injective function.
(b) Give an example of an injective function.
(c) Give an example of a function which is not injective.
2. (a) The sum of two odd functions, both with domain $\mathbb{R}$, is odd.
(b) The composition of two odd functions, both with domain $\mathbb{R}$, is even.
3. If $f: A \rightarrow B$ and $g: B \rightarrow C$ are surjective functions, then $g \circ f$ is surjective.
4. Let $f: A \rightarrow B$ be a bijective function. Then the inverse function of $f$ is unique, i.e. if $g_{1}$ and $g_{2}$ are both inverse functions for $f$, then $g_{1}=g_{2}$.
5. (a) The natural numbers and the even natural numbers are equipollent.
(b) If $A$ and $B$ are disjoint denumerable sets, then $A \cup B$ is a denumerable set.
