1.0 Introduction

Well Ordering Principle: Every nonempty set S of non-negative integers contains a least element; that is there is osme integer a in S such that $a \leq b$ for all b's belonging to S

Theorem 1.1: Archimedian property. If a and b are any positive integers, then there exists a positive integer n such that $na \geq b$.

Theorem 1.2 First Principle of Finite Induction. Let S be the set of positive integers.
(a) The integer 1 belongs to S
(b) Whenever the integer k is in S, the next integer $k+1$ must also be in S

Theorem 1.2 Second Principle of Finite Induction. Let S be the set of positive integers.
(a) The integer 1 belongs to S
(b') If k is a positive integer such that $1, 2, \cdots, k$ for $k \in S$, then $k+1$ must also be in S.

Thus S is the set of all positive integers.