11th Standard - Mathematics

Principle of Mathematical Induction

Principle of Mathematical Induction

Mathematical induction is one of the techniques, which can be used to prove a variety of mathematical statements which are formulated in terms of n, where n is a positive integer.

Let P(n) be given statement involving the natural number n such that
(i) The statement is true for n = 1, i.e. P(1) is true.
(ii) If the statement is true for n = k (where k is a particular but arbitrary natural number), then the statement is also true for n = k + 1 i.e. truth of P(k) implies that the truth of P(k + 1). Then, P(n) is true for all natural numbers n.