

Class 11

Important Formulas

Principle of Mathematical Induction

1. A sentence or description which can be judged to be true or false is called a statement. Statements involving mathematical relations are called mathematical statements.
2. Let $P(n)$ be a statement involving the natural number n such that
 - (i) $P(1)$ is true.and,
 - (ii) $P(m+1)$ is true, whenever $P(m)$ is true.Then, $P(n)$ is true for all $n \in N$.
This is called first principle of mathematical induction.
3. Let $P(n)$ be a statement involving the natural number n such that
 - (i) $P(1)$ is trueand,
 - (ii) $P(m+1)$ is true, whenever $P(n)$ is true for all $n \leq m$.Then, $P(n)$ is true for all $n \in N$.
This is called second principle of mathematical induction.