

Class 11th - Mathematics

1. Sets

- Introduction
- Sets and their Representations
- The Empty Set
- Finite and Infinite Sets
- Equal Sets
- Subsets
- Power Set
- Universal Set
- Venn Diagrams
- Operations on Sets
- Complement of a Set
- Practical Problems on Union and Intersection of Two Sets

2. Relations and functions

- Introduction
- Cartesian Product of Sets
- Relations
- Functions

3. Trigonometric Functions

- Introduction
- Angles
- Trigonometric Functions

- Trigonometric Functions of Sum and Difference of Two Angles
- Trigonometric Equations

4. Principle of Mathematical Induction

- Introduction
- Motivation
- The Principle of Mathematical Induction

5. Complex Numbers and Quadratic Equations

- Introduction
- Complex Numbers
- Algebra of Complex Numbers
- The Modulus and the Conjugate of a Complex Number
- Argand Plane and Polar Representation
- Quadratic Equations

6. Linear Inequalities

- Introduction
- Inequalities
- Algebraic Solutions of Linear Inequalities in One Variable and their Graphical Representation
- Graphical Solution of Linear Inequalities in Two Variables
- Solution of System of Linear Inequalities in Two Variables

7. Permutations and Combinations

- Introduction

- Fundamental Principle of Counting
- Permutations
- Combinations .

8. Binomial Theorem

- Introduction
- Binomial Theorem for Positive Integral Indices
- General and Middle Terms

9. Sequences and Series

- Introduction
- Sequences
- Series
- Arithmetic Progression (A.P.)
- Geometric Progression (G.P.)
- Relationship Between A.M. and G.M.
- Sum to n terms of Special Series

10. Straight Lines

- Introduction
- Slope of a Line
- Various Forms of the Equation of a Line
- General Equation of a Line
- Distance of a Point From a Line

11. Conic Sections

- Introduction
- Sections of a Cone
- Circle
- Parabola

- Ellipse
- Hyperbola

12. Introduction to Three Dimensional Geometry

- Introduction
- Coordinate Axes and Coordinate Planes in Three Dimensional Space
- Coordinates of a Point in Space
- Distance between Two Points
- Section Formula

13. Limits and Derivatives

- Introduction
- Intuitive Idea of Derivatives
- Limits
- Limits of Trigonometric Functions
- Derivatives

14. Mathematical Reasoning

- Introduction
- Statements
- New Statements from Old
- Special Words/Phrases
- Implications
- Validating Statements

15. Statistics

- Introduction
- Measures of Dispersion
- Range

- Mean Deviation
- Variance and Standard Deviation
- Analysis of Frequency Distributions

16. Probability

- Introduction
- Random Experiments
- Event
- Axiomatic Approach to Probability

