

Class 8th – Mathematics

1. Rational Numbers

- Introduction to rational numbers.
- Properties of rational numbers.
- Consolidation of operations on rational numbers.
- Representation of rational numbers on the number line
- Rational numbers between two rational number

2. Linear Equations

- Introduction to linear equations
- Solving linear equations having variable on one side
- Application of linear equations
- Solving linear equations having variable on both sides
- Some more application of linear equations
- Reducing equations to simpler form
- Equations Reducible to the Linear Form

3. Understanding Quadrilaterals

- Polygons
- Sum of the measures of exterior angles of polygons
- Kinds of quadrilaterals
- Properties of parallelogram
- Some special parallelogram

4. Practical Geometry

- Constructing a quadrilateral:
 - When the length of four side and diagonal are given
 - When two diagonals and three sides are given
 - When two adjacent sides and three angles are known
 - When three side and two included angles are given
- Some special cases:

- Square
- Rhombus

5. Data Handling

- Looking for information
- Organizing data
- Grouping data
- Circle graph or pie charts
- Chance and probability

6. Square and Square roots

- Square of a number
- Finding Square root of a number by repeated subtraction
- Finding Square root of a number by prime factorization method
- Finding Square root of a number by long division method
- Square root of decimals
- Estimation of square root

7. Cube and Cube roots

- Cubes
- Cube roots

8. Comparing Quantities

- Recalling ratio and percentage
- Finding the increase or decrease percentage,
- Finding discount,
- Prices related to buying and selling,
- Sales tax/ value-added tax /Goods and Services Tax
- Compound Interest
- Deducing formula for compound interest,
- Rate Compounded Annually or Half Yearly (Semi Annually)
- Application of compound interest Formula

9. Algebraic Expressions and Identities

- What are expressions
- Terms, Factors and Coefficients
- Monomials, Binomials and Polynomials
- Like and Unlike Terms
- Addition and subtraction of algebraic expressions
- Multiplication of algebraic expressions:
 - Multiplication of monomial with monomial and monomial with a polynomial
 - Multiplication of polynomial with a polynomial
- What is Identity
- Standard identities
- 10. Visualising Solid Shapes**
 - Views of 3D shapes
 - Mapping shapes around us
 - Faces, Edges and vertices
- 11. Mensuration**
 - Area of trapezium
 - Area of general quadrilateral
 - Area of polygon
 - Solid shapes
 - Surface area of cube, cuboid and cylinder
 - Volume of cube, cuboid and cylinder
 - Volume and capacity
- 12. Exponents and Powers**
 - Powers with negative and positive exponents
 - Law of exponents
 - Use of exponents to express small numbers in Standard Form
- 13. Direct and Inverse Proportions**

- Direct proportion
- Inverse Proportion

14. Factorisation

- What is Factorization
- Factorization by regrouping terms
- Factorisation using identities
- Division of algebraic expression

15. Introduction to Graphs

- Bar graphs, pie graph and line graph
- Linear graphs
- Applications of linear graphs

16. Playing with Numbers

- Numbers in general form, reversing the digits of number
- Letters for digits
- Test of divisibility by 2, 3, 5, 9, 10