

Detailed Contents

Each chapter contains different exercises which include the following:

- Multiple Choice Questions
- Let's Evaluate (long and short calculations)
- Values and Life skills
- Exemplar Problems
- Solve Mentally (True or False/Fill in the Blanks/Answer in One Word or a Line)
- Thinking Skills
- NCERT Textbook Questions

Chapter	Content	Tasks to Perform
1. Rational Numbers	Comparison, Some Properties, Addition and their properties, Subtraction and their properties, Simpler Method of Addition/Subtraction, Multiplication and their properties, Division and their properties, Representation on a Number Line, Rational Numbers Between Two Rational Numbers	<ul style="list-style-type: none"> • Maths Lab Activity (Rational numbers and its operations) —Learning Skills, Creative Thinking
2. Exponents (Powers)	Laws of Exponents of Rational Numbers, Positive and Negative Integral Exponents of a Rational Number, Properties of Negative Integral Exponents, Use of Exponents	<ul style="list-style-type: none"> • Try It Out! —Application of Concept, Thinking Skills, Conceptual Understanding
3. Squares and Square Roots	Perfect Square and Square Numbers, Prime Factorization Method to Check Perfect Squares, Properties of Perfect Squares, Pythagorean Triplet, Shortcut Methods for Squaring a Number, Easy Methods of Finding Squares, Square Roots and Properties, Methods to Find Square Roots, Relation Between the Digits of a Perfect Square and Its Square Root, Square Roots of Rational Numbers, Approximating the Value of Square Roots by Long Division Method	<ul style="list-style-type: none"> • Try It Out! —Conceptual Understanding
4. Cubes and Cube Roots	Cube of a Number, Perfect Cube, Properties of Cubes of Natural Numbers, Finding Cubes, Cubes of Negative Integers and Rational Numbers, Cube Roots, Cube Root of a Natural Number, Computation of Cube Root, Cube Root of a Negative Integral Perfect Cube, Cube Root of the Product of Integers, Cube Root of a Rational Number	<ul style="list-style-type: none"> • Maths Lab Activity (Understanding cubes) —Conceptual Understanding, Observation
5. Algebraic Expressions and Identities: Part I	Definition of Algebraic Expression and Other Terms, Addition, Subtraction and Multiplication of Algebraic Expressions—Monomial by Monomial and Binomial, Binomial by Binomial and Trinomial, and Trinomial by Trinomial, Algebraic Identities, Standard Identities, Special Product	<ul style="list-style-type: none"> • Maths Lab Activity (Verifying identity) —Creative Thinking, Verification • Maths Lab Activity (Verifying identity) —Creative Thinking, Verification • Maths Lab Activity (Proving special product) —Creative Thinking, Observation
6. Algebraic Expressions and Identities: Part II	Polynomial, Degree of Polynomial in One Variable and Two Variables, Constant, Linear, Quadratic, Cubic and Biquadratic Polynomials, Division of a Monomial by a Monomial, Division of Polynomials	<ul style="list-style-type: none"> • Quiz —Thinking Skills, Knowledge of Concept
7. Factorization of Algebraic Expressions	Factors, Factors of a Monomial, HCF, Factorization of Algebraic Expressions	<ul style="list-style-type: none"> • Try It Out! —Application of Knowledge, Thinking Skills
8. Linear Equations in One Variable	Linear Equation, Rules for Solving a Linear Equation, Solving Equations Having Variable Terms on One Side and Number(s) on the Other Side, Using Transposition Method and by Cross-Multiplication Method, Application of Linear Equations to Word Problems	<ul style="list-style-type: none"> • Maths Lab Activity (Magic squares) —Thinking Skills, Conceptual Understanding • Maths Lab Activity (Tracing relationship) —Analytical Thinking, Interpretation • Brainstorming —Application of Knowledge, Evaluation • Reason It Out! —Critical Thinking, Logical Reasoning
9. Direct and Inverse Variation	Types of Variation, Direct Variation, Inverse Variation	<ul style="list-style-type: none"> • Maths Lab Activity (Deducing direct variation) —Creative Thinking, Interpretation
10. Time and Work	Time and Work, Pipes and Cisterns	<ul style="list-style-type: none"> • Brainstorming —Critical Thinking, Logical Reasoning

contd...

contd...

Chapter	Content	Tasks to Perform
11. Percentage	Percent as a Fraction, Percent as a Ratio, Conversion of Ratio into Percent, Percent as a Decimal, Conversion of Decimal into Percent, Finding Percentage of a Number, Increase/Decrease in Percent	<ul style="list-style-type: none"> • Maths Lab Activity (Connecting fraction to equivalent decimal and percent) —Conceptual Understanding, Accuracy • Maths Lab Activity (Calculating percentage and joining dots) —Evaluation, Accuracy • Problems Related to Thinking Skills —Thinking Skills, Problem Solving
12. Profit, Loss, Discount, Tax	Profit, Loss, Discount, Tax	<ul style="list-style-type: none"> • Pair Activity —Team Spirit, Thinking Skills
13. Compound Interest	Compound Interest, Computation of Compound Interest, Inverse Problems on Compound Interest, Appreciation, Depreciation	<ul style="list-style-type: none"> • Group Project —Team Spirit, Survey, Comparison
14. Understanding Quadrilaterals	Convex and Concave Polygons, Classification of Polygons, Regular and Irregular Polygons, Triangle, Angle-Sum Property of a Triangle, Sum of Measure of Exterior Angles of a Polygon, Quadrilaterals, Convex and Concave Quadrilateral, Angle-Sum Property of a Quadrilateral, Types of Quadrilaterals and Their Properties	<ul style="list-style-type: none"> • Maths Lab Activity (Verifying the angle-sum property of quadrilaterals) —Creative Thinking, Verification • Maths Lab Activity (Making a kite) —Creative Thinking, Knowledge of Concept
15. Construction of Quadrilaterals	Construction of Quadrilaterals given (a) 4 sides and 1 diagonal, (b) 3 sides and 2 diagonals, (c) 4 sides and 1 angle, (d) 3 sides and 2 included angles, (e) 3 angles and 2 included sides, Some Special Quadrilaterals	<ul style="list-style-type: none"> • Maths Lab Activity (Checking the conditions of construction of a quadrilateral) —Creative Thinking, Observation
16. Visualizing Shapes	Polyhedron, Prism, Pyramid, Platonic Solids, Euler's Formula, Visualization of 3-D Shapes Through Nets, Net Pattern of Various Polyhedrons, View of 3-D Shapes, Maps	<ul style="list-style-type: none"> • Maths Lab Activity (Making a pentagonal pyramid) —Creative Thinking, Accuracy
17. Mensuration-I (Plane Figures)	Area and Perimeter of Plane Figures, Area of a Trapezium, Area of a Polygon	<ul style="list-style-type: none"> • Puzzle —Conceptual Understanding, Logical Thinking • Maths Lab Activity (Finding the area of an irregular polygon) —Thinking Skills, Interpretation
18. Mensuration-II (Solid Figures)	Space Region and Volume of the Space Region Formed by a Body, Standard Unit of Volume, Volume of Cube and Cuboid, Surface Area of a Cuboid and Cube, Cylinder, Surface Area of a Hollow Cylinder, Volume of a Cylinder and a Hollow Cylinder	<ul style="list-style-type: none"> • Maths Lab Activity (Finding the area of a cylinder) —Creative Thinking, Deductive Reasoning • Quizzes —Conceptual Understanding, Logical Thinking
19. Playing with Numbers	Numbers in Generalized Form, Reversing the Digits—2-Digit Number and 3-Digit Number, Tests of Divisibility, Letters for Digits, Number Puzzles and Games	<ul style="list-style-type: none"> • Problems Related to Thinking Skills —Problem Solving, Application of Concept • Pair Activity —Thinking Skills, Accuracy
20. Frequency Distribution and Bar Graph	Presentation of Data, Frequency Distribution, Converting Inclusive Class Interval into Exclusive Class Interval, Construction of Discrete Frequency Distribution and Grouped Frequency Distribution, Bar Graph	<ul style="list-style-type: none"> • Maths Lab Activity (Collecting data and representing it in a bar graph) —Data Handling, Thinking Skills, Interpretation
21. Histogram, Pie Chart and Line Graph	Histogram, Pie Chart, Introduction to Line Graphs, Construction of Graphs	<ul style="list-style-type: none"> • Maths Lab Activity (Collecting data and representing it in a histogram) —Data Handling, Creative Thinking • Maths Lab Activity (Tabulation of data and its representation in a pie chart) —Data Handling, Observation
22. Probability	Theoretical Approach to Probability, Theoretical Probability	<ul style="list-style-type: none"> • Maths Lab Activity (Finding probability) —Observation, Interpretation • Quiz —Conceptual Understanding