

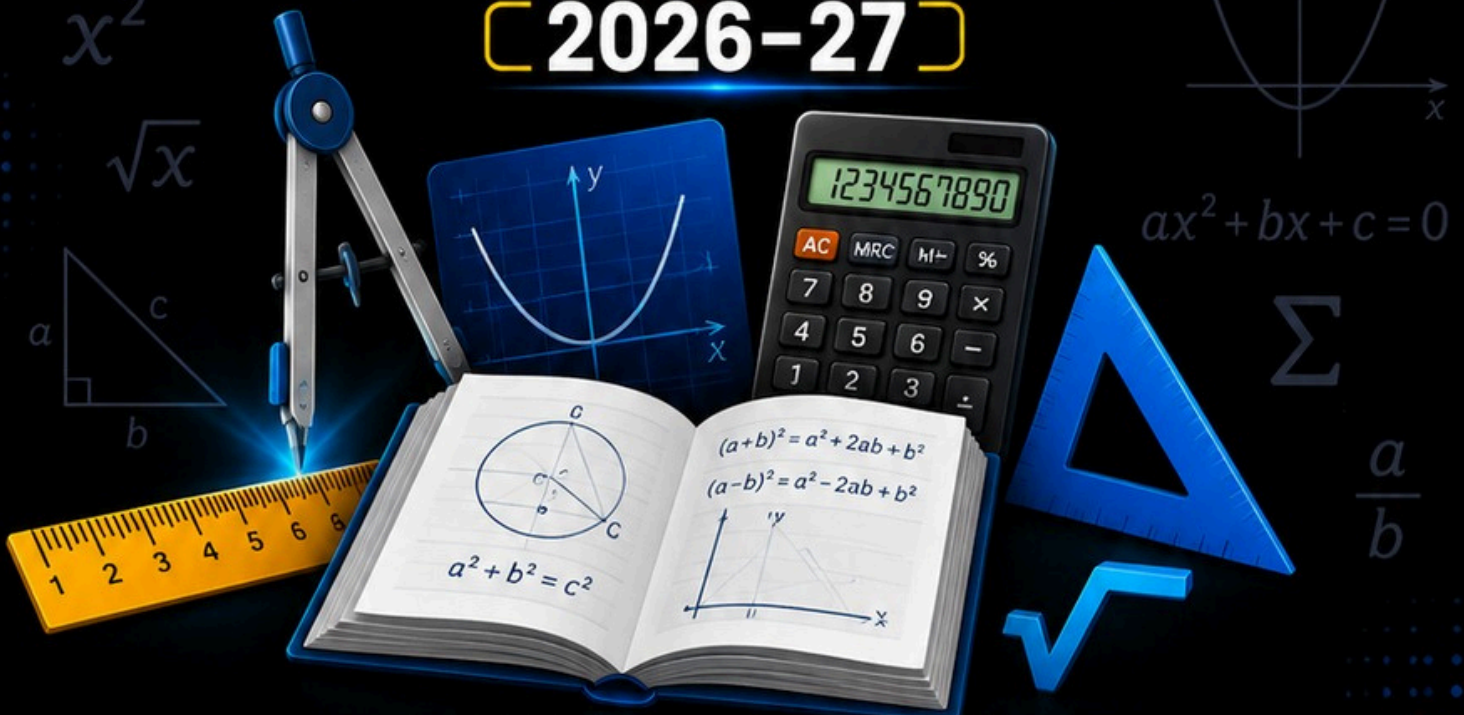


— CBSE CLASS 10 —

MATHEMATICS

≡ **LATEST SYLLABUS** ≡

[2026-27]



SYLLABUS HANDBOOK

Complete Chapter List • Topics Covered • Study Planner • Board Exam Guide



**COMPLETE
CHAPTER LIST**



**TOPICS
COVERED**



**STUDY
PLANNER**



**BOARD EXAM
GUIDE**



LEARN



PRACTICE



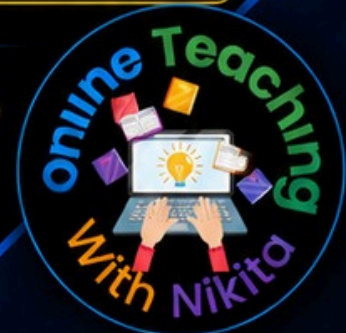
REVISE



SCORE 100%

— **ONLINE TEACHING WITH NIKITA** —

CBSE • NCERT • BOARD EXAM PREPARATION



Welcome STUDENTS!



We are glad to have you with us on this exciting journey of learning **Mathematics**.
This handbook is your complete guide to the **CBSE Class 10** Mathematics syllabus for the academic session **2026–27**.



ABOUT THIS HANDBOOK

This handbook is specially designed to help you understand the complete syllabus, chapter-wise topics, and create an effective study plan for the entire academic year.



HOW TO USE IT?

- Go through the chapter list and topics carefully.
- Plan your study using the suggested study planner.
- Use the resources and tips to prepare smartly.
- Revise regularly and practice consistently.



WHAT YOU'LL FIND INSIDE?



Complete
Chapter List



Topics
Covered



Study
Planner



Board Exam
Guide



Important
Tips



Preparation
Strategy



Resources &
Guidance



Success
Mantra



With the Right Plan, Consistent Effort and Positive Mindset,
You Can Achieve **100% Success!**



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Complete list of all chapters in the Mathematics syllabus.

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*Let's Learn Today,
Lead Tomorrow!*



COURSE OVERVIEW

CBSE Class 10 Mathematics (2026–27)



The CBSE Class 10 Mathematics syllabus for the academic session 2026–27 is designed to build strong mathematical concepts, logical reasoning, and problem-solving skills. It consists of **14 chapters** organized into **7 units**, with a total theory weightage of **80 marks**.



UNIT-WISE MARKS DISTRIBUTION

UNIT	UNIT NAME	MARKS
I	Number Systems	06
II	Algebra	20
III	Coordinate Geometry	06
IV	Geometry	15
V	Trigonometry	12
VI	Mensuration	10
VII	Statistics & Probability	11
★	TOTAL (Theory Examination)	80

QUICK FACTS



14
Chapters



7
Units



80
Marks Theory



Latest CBSE
2026–27 Syllabus



NCERT
Based



Competency-
Based Learning



WHAT THIS HANDBOOK INCLUDES

- ✓ Chapter-wise Topics
- ✓ Learning Outcomes
- ✓ Competencies
- ✓ Study Planner
- ✓ Board Exam Tips
- ✓ Free Learning Resources



EXAM PREPARATION STRATEGY

- ✓ Understand NCERT concepts thoroughly.
- ✓ Practice NCERT exercises and exemplar questions.
- ✓ Solve competency-based and case-based questions.
- ✓ Revise formulas and important concepts regularly.
- ✓ Practice previous years' questions and sample papers.



STUDY TIP

“ Focus more on **Algebra (20 marks)**, **Geometry (15 marks)**, and **Trigonometry (12 marks)**, as these units together contribute nearly 60% of the theory paper. ”



Learn



Practice



Revise



Score **100%**



ONLINE TEACHING WITH NIKITA





UNIT I – NUMBER SYSTEMS (6 Marks)



$$\sqrt{x}$$

Chapter 1 – Real Numbers

 π

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)

$$a^2 + b^2 = c^2$$



OFFICIAL TOPICS COVERED

1 Fundamental Theorem of Arithmetic

- Statements after reviewing work done earlier and after illustrating and motivating through examples.

2 Proofs of Irrationality

- Proofs of irrationality of $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$.



COMPETENCIES DEVELOPED

- ✓ Develops understanding of numbers, including the set of real numbers and its properties.
- ✓ Extends the understanding of powers (radical powers) and exponents.
- ✓ Applies the Fundamental Theorem of Arithmetic to solve problems related to real-life contexts.



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- Explain the Fundamental Theorem of Arithmetic with suitable examples.
- Prove algebraically the irrationality of numbers such as $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$ and similar irrational numbers.
- Apply concepts of real numbers to solve board-level questions confidently.



BOARD FOCUS

- ★ Fundamental Theorem of Arithmetic
- ★ Prime Factorisation
- ★ Proofs of Irrationality
- ★ Competency-Based Questions
- ★ NCERT & Board Exam Questions



PREPARATION TIPS

- Revise the Fundamental Theorem of Arithmetic thoroughly.
- Practise proofs of irrationality step by step.
- Solve all NCERT Examples and Exercises.
- Focus on competency-based and assertion-reason questions.



QUICK REVISION CHECKLIST

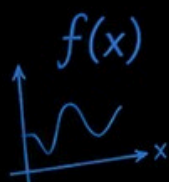
- ☐ Fundamental Theorem of Arithmetic revised
- ☐ Prime Factorisation understood
- ☐ Proofs of $\sqrt{2}$, $\sqrt{3}$ and $\sqrt{5}$ practised
- ☐ NCERT questions completed
- ☐ Competency-based questions solved





UNIT II – ALGEBRA (20 Marks)

$$x^2 + y^2 = z^2$$



Chapter 2 – Polynomials

$$P(x)$$

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)

$$ax^2 + bx + c$$



OFFICIAL TOPICS COVERED

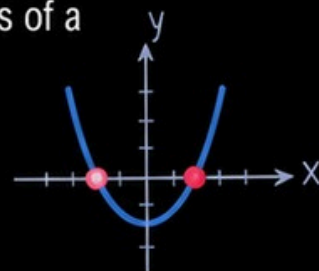
- 1 Zeros of a polynomial
- 2 Relationship between zeros and coefficients of quadratic polynomials.

$$P(x)$$



COMPETENCIES DEVELOPED

- ✓ Develops a relationship between algebraic and graphical methods of finding the zeroes of a polynomial.



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- Define and understand the zeros of a polynomial.
- Find the zeros of a polynomial both graphically and algebraically.
- Verify the relationship between zeros and coefficients of a quadratic polynomial.



BOARD FOCUS

- ★ Zeros of a Polynomial
- ★ Graphical Method
- ★ Relationship between zeros and coefficients (Quadratic Polynomial)
- ★ Important Formulas and Theorems
- ★ NCERT & Board Exam Questions



PREPARATION TIPS

- Understand the meaning of zeros of a polynomial clearly.
- Practise finding zeros graphically and algebraically.
- Learn and apply the relationship between zeros and coefficients of quadratic polynomials.
- Solve all NCERT Examples and Exercise questions.



QUICK REVISION CHECKLIST

- ☐ Zeros of a polynomial understood
- ☐ Zeros found graphically (practice done)
- ☐ Zeros found algebraically (practice done)
- ☐ Relationship between zeros and coefficients verified
- ☐ NCERT questions completed
- ☐ Board style questions practised



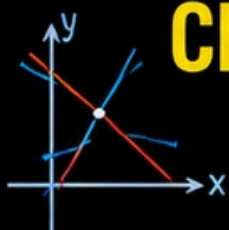


UNIT II – ALGEBRA (20 Marks)

$$ax + by = c$$

$a, b \neq 0$

Chapter 3 – Pair of Linear Equations in Two Variables



Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



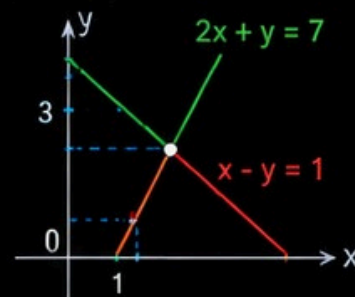
OFFICIAL TOPICS COVERED

- 1 **Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency.**
- 2 **Algebraic conditions for number of solutions.**
- 3 **Solution of a pair of linear equations in two variables algebraically – by substitution, by elimination. Simple situational problems.**



COMPETENCIES DEVELOPED

- ✓ Describes plotting a pair of linear equations and graphically finding the solution.
- ✓ Models and solves contextualised problems using equations (e.g., simultaneous linear equations in two variables).
- ✓ Finds the solution of a pair of linear equations using algebraic methods (substitution and elimination method).



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- ▶ Represent a pair of linear equations in two variables on the Cartesian plane.
- ▶ Determine graphically whether the pair of linear equations is consistent or inconsistent.
- ▶ Find algebraic conditions to determine the number of solutions (unique, infinitely many or no solution).
- ▶ Solve simultaneous linear equations in two variables by substitution and elimination.
- ▶ Formulate and solve simple real-life problems using simultaneous equations.



BOARD FOCUS

- ★ Graphical Method of Solution
- ★ Consistency / Inconsistency of a Pair of Linear Equations
- ★ Algebraic Conditions for Number of Solutions
- ★ Solution by Substitution Method
- ★ Solution by Elimination Method
- ★ Word Problems / Real Life Applications
- ★ NCERT & Board Exam Questions



PREPARATION TIPS

- ➡ Clearly understand the concept of consistent and inconsistent pairs of linear equations.
- ➡ Learn to represent equations graphically and interpret the graph correctly.
- ➡ Practice solving equations by substitution and elimination step by step.
- ➡ Solve all NCERT Examples and Exercises.
- ➡ Practice word problems regularly.



QUICK REVISION CHECKLIST

- ☐ Graphical method understood
- ☐ Conditions for number of solutions memorized
- ☐ Substitution method practised
- ☐ Elimination method practised
- ☐ Word problems practised
- ☐ NCERT questions completed
- ☐ Board style questions solved





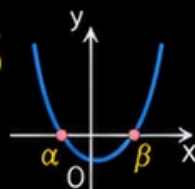
UNIT II – ALGEBRA (20 Marks)

$$ax^2 + bx + c = 0$$
$$a \neq 0$$

Chapter 4 – Quadratic Equations

$$ax^2 + bx + c = 0$$
$$a \neq 0$$

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

- Standard form of a quadratic equation**
 $ax^2 + bx + c = 0, (a \neq 0).$
- Solutions of quadratic equations (only real roots) by factorization, and by using quadratic formula.**
Relationship between discriminant and nature of roots.
- Situational problems based on quadratic equations related to day-to-day activities to be incorporated.**



COMPETENCIES DEVELOPED

- ✓ Demonstrates strategies of finding roots and determining the nature of roots of a quadratic equation.
- ✓ Solves quadratic equations using factorization and quadratic formula.
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$
- ✓ Determines the nature of roots using discriminant ($D = b^2 - 4ac$).
- ✓ Formulates and solves problems based on real life context.

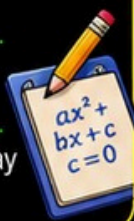
Nature of Roots	Nature of Roots
$D > 0$	Two distinct real roots
$D = 0$	Two equal real roots
$D < 0$	No real roots



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- ▶ Identify and write quadratic equations in standard form.
- ▶ Solve quadratic equations by factorization and by using quadratic formula.
- ▶ Determine the nature of roots using the discriminant.
- ▶ Apply quadratic equations to solve day-to-day situational problems.



BOARD FOCUS

- ★ Standard Form $ax^2 + bx + c = 0$
- ★ Factorization Method
- ★ Quadratic Formula
- ★ Discriminant and Nature of Roots
- ★ Real Life / Word Problems
- ★ NCERT & Board Exam Questions



PREPARATION TIPS

- ➡ Learn and remember the quadratic formula and discriminant.
- ➡ Practice solving equations by factorization as it is faster.
- ➡ Understand the discriminant concept well to identify the nature of roots quickly.
- ➡ Solve all NCERT Examples and Exercises.
- ➡ Practice word problems regularly for better application.



QUICK REVISION CHECKLIST

- ☐ Standard form $ax^2 + bx + c = 0$ understood
- ☐ Factorization method practised
- ☐ Quadratic formula memorized
- ☐ Discriminant and nature of roots learned
- ☐ Real life problems practised
- ☐ NCERT questions completed
- ☐ Board style questions solved





UNIT II – ALGEBRA (20 Marks)

$$a_n = a + (n-1)d$$



Chapter 5. – Arithmetic Progressions

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)

$$2, 5, 8, 11, \dots$$

$$d = 3$$



OFFICIAL TOPICS COVERED

- 1 **Motivation for studying Arithmetic Progression.**
- 2 **Derivation of the n th term and sum of the first n terms of AP and their application in solving daily life problems.**



COMPETENCIES DEVELOPED

- ✓ Develops strategies to apply the concept of Arithmetic Progression in daily life situations.
- ✓ Derives the n th term of an AP using general form $a_n = a + (n-1)d$.
- ✓ Derives the sum of the first n terms of an AP using $S_n = \frac{n}{2}[2a + (n-1)d]$.
- ✓ Applies the formulas in solving real-life problems.

Key Formulas

$$a_n = a + (n-1)d$$

$$S_n = \frac{n}{2}[2a + (n-1)d]$$



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- ▶ Identify an Arithmetic Progression and determine its first term and common difference.
- ▶ Derive and use the formula for the n th term of an AP.
- ▶ Derive and use the formula for the sum of the first n terms of an AP.
- ▶ Solve real-life and day-to-day problems using AP formulas.



BOARD FOCUS

- ★ Definition and identification of AP
- ★ n th Term of an AP: $a_n = a + (n-1)d$
- ★ Sum of First n Terms:
 $S_n = \frac{n}{2}[2a + (n-1)d]$
- ★ Application in Real Life Problems
- ★ Reasoning / Assertion-Reason Questions
- ★ NCERT & Board Exam Questions



PREPARATION TIPS

- ➡ Understand the concept of AP using examples from daily life.
- ➡ Memorize the formulas for n th term and sum of first n terms.
- ➡ Practice derivations of both formulas step by step.
- ➡ Solve all NCERT Examples and Exercise questions.
- ➡ Practice word problems regularly to improve speed and accuracy.



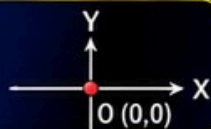
QUICK REVISION CHECKLIST

- ☐ Definition of AP understood
- ☐ n th term formula memorized
- ☐ Sum of first n terms formula memorized
- ☐ Derivations of formulas revised
- ☐ NCERT questions completed
- ☐ Word problems practised
- ☐ Board style questions solved





UNIT III – COORDINATE GEOMETRY (6 Marks)



Chapter 6 – Coordinate Geometry

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

1 Introduction to Cartesian system of rectangular coordinates in a plane.

2 Distance formula.

Derivation of distance formula and applications.

3 Section formula.

Derivation of section formula and applications.



COMPETENCIES DEVELOPED

- ✓ Interprets and represents data using Cartesian coordinates in a plane.
- ✓ Applies distance formula to solve problems involving distances between two points.
- ✓ Applies section formula to find the coordinates of a point which divides a line segment in a given ratio.
- ✓ Solves real-life contextual problems using concepts of coordinate geometry.

Important Formula

Distance Formula : $AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Section Formula : If $P(x, y)$ divides $A(x_1, y_1)$ and $B(x_2, y_2)$ in the ratio $m:n$, then

$$x = \frac{mx_2 + nx_1}{m+n}, \quad y = \frac{my_2 + ny_1}{m+n}$$



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- Explain the Cartesian system of rectangular coordinates in a plane.
- Find the distance between any two points using distance formula.
- Find the coordinates of a point dividing a line segment internally in a given ratio.
- Apply distance and section formulas in various situations and real-life problems.



BOARD FOCUS

- ★ Cartesian System of Rectangular Coordinates
- ★ Distance Formula – Derivation & Applications
- ★ Section Formula – Internal Division (m:n)
- ★ Proving Points Collinear (Using Section Formula)
- ★ Real-Life / Application Based Questions
- ★ NCERT & Board Exam Questions



PREPARATION TIPS

- Understand the Cartesian plane and plotting of points clearly.
- Memorize and practise distance and section formulas.
- Solve all NCERT Examples and Exercises.
- Practise application-based and competency-based questions.
- Revise derivations of both formulas at least once before the exam.



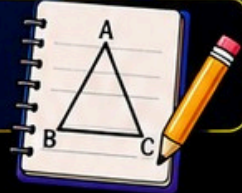
QUICK REVISION CHECKLIST

- ☐ Cartesian system of rectangular coordinates revised
- ☐ Distance formula understood & practised
- ☐ Section formula (internal division) understood
- ☐ Proving points collinear using section formula
- ☐ NCERT questions completed
- ☐ Application / Real-life problems practised
- ☐ Board style questions solved





UNIT IV – GEOMETRY (15 Marks)



Chapter 7 – Triangles

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

Definitions, examples, and counter examples of similar triangles.

- (Prove)** If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
- State (without proof)** If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
- State (without proof)** If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.
- State (without proof)** If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.
- State (without proof)** If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.



LEARNING OUTCOMES

Students will be able to:

- Understand the concept of similar triangles with examples and counter examples.
- Prove the Basic Proportionality Theorem (BPT).
- Apply the converse of BPT in problem solving.
- Understand and apply the three similarity criteria (AAA, SSS and SAS).
- Solve board-level proof and application questions based on similar triangles.



PREPARATION TIPS

- Understand the proof of BPT line by line.
- Memorize all three similarity criteria.
- Practice diagrams neatly and label correctly.
- Solve NCERT Examples and Exercise questions.
- Practice previous year board questions regularly.
- Focus on proof-based and application-based questions.



COMPETENCIES DEVELOPED

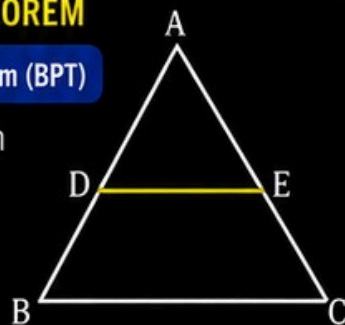
- Works out ways to differentiate between congruent and similar figures.
- Establishes properties for similarity of two triangles logically using different geometric criteria established earlier such as Basic Proportionality Theorem, etc.
- Applies the theorems of similarity to solve problems in real-life situations.

IMPORTANT THEOREM

Basic Proportionality Theorem (BPT)

If $DE \parallel BC$ in $\triangle ABC$, then

$$\frac{AD}{DB} = \frac{AE}{EC}$$



BOARD FOCUS

- Definitions, examples and counter examples of similar triangles
- Basic Proportionality Theorem (BPT) – Proof
- Converse of BPT
- AAA Similarity Criterion
- SSS Similarity Criterion
- SAS Similarity Criterion
- Proof Based Questions
- NCERT & Competency-Based Questions
- Previous Year Board Questions



QUICK REVISION CHECKLIST

- ☐ Definitions, examples and counter examples revised
- ☐ BPT proof revised
- ☐ Converse of BPT understood
- ☐ AAA similarity criterion revised
- ☐ SSS similarity criterion revised
- ☐ SAS similarity criterion revised
- ☐ NCERT exercises completed
- ☐ Board-level questions practiced
- ☐ Previous year questions practiced





UNIT IV – GEOMETRY (15 Marks)



Chapter 8 – Circles

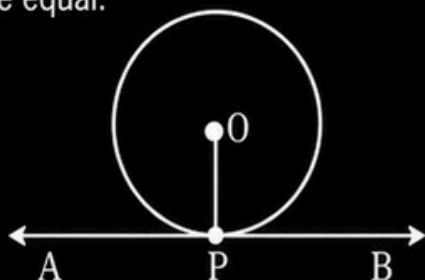
Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

Tangent to a circle at point of contact.

- (Prove)** The tangent at any point of a circle is perpendicular to the radius through the point of contact.
- (Prove)** The lengths of tangents drawn from an external point to a circle are equal.

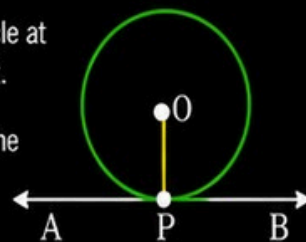


COMPETENCIES DEVELOPED

- ✓ Understands the concept of tangents to a circle.
- ✓ Proves the properties of tangents using logical reasoning.
- ✓ Applies the properties of tangents to solve geometric problems.
- ✓ Develops accuracy in deduction and proof writing.

IMPORTANT FACTS

- **Tangent:** A line that touches the circle at exactly one point is called a tangent.
- **Point of Contact:** The point where the tangent touches the circle.



LEARNING OUTCOMES

After completing this chapter, students will be able to:

- ▶ Define a tangent to a circle and identify its point of contact.
- ▶ Prove that the tangent at any point of a circle is perpendicular to the radius through the point of contact.
- ▶ Prove that the lengths of tangents drawn from an external point to a circle are equal.
- ▶ Apply the properties of tangents to solve theorems and real-life problems.



BOARD FOCUS

- ★ Tangent at a point – Definition
- ★ Tangent $\perp$ Radius at point of contact – Proof
- ★ Tangents from an external point – Lengths are equal – Proof
- ★ Application Based Questions
- ★ NCERT Textbook Questions
- ★ Previous Year Board Questions



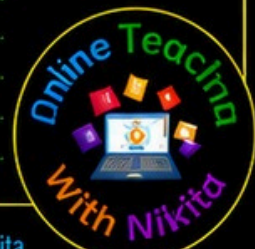
PREPARATION TIPS

- ➔ Learn definitions and theorems by heart.
- ➔ Understand and write proofs step by step.
- ➔ Draw neat and accurate diagrams.
- ➔ Practice NCERT Examples and Exercise questions.
- ➔ Solve previous year board questions regularly.
- ➔ Focus on proof-based and application-based questions.



QUICK REVISION CHECKLIST

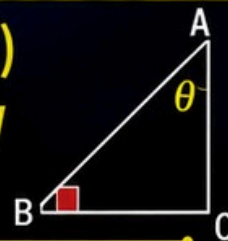
- ☐ Tangent – Definition understood
- ☐ Tangent $\perp$ Radius – Proof revised
- ☐ Tangents from external point – Proof revised
- ☐ Diagrams drawn neatly
- ☐ NCERT exercises completed
- ☐ Board-level questions practiced
- ☐ Previous year questions solved





UNIT V – TRIGONOMETRY (12 Marks)

Chapter 9 – Introduction to Trigonometry & Trigonometric Identities



$\sin \theta$
 $\cos \theta$
 $\tan \theta$
 $\operatorname{cosec} \theta$
 $\sec \theta$
 $\cot \theta$

PART A – INTRODUCTION TO TRIGONOMETRY

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

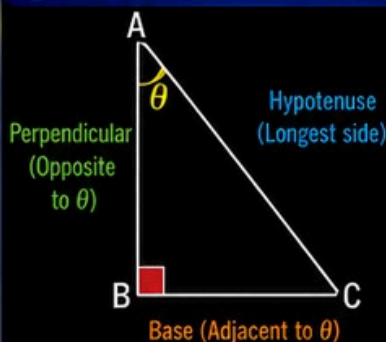
- 1 Trigonometric ratios of an acute angle of a right-angled triangle.
Proof of their existence (well defined).
- 2 Motivate the ratios whichever are defined at 0° and 90° . Values of the trigonometric ratios of 30° , 45° and 60° .
- 3 Relationships between the ratios.



COMPETENCIES DEVELOPED

- ✓ Understands the concept of trigonometric ratios in a right-angled triangle.
- ✓ Proves that trigonometric ratios are well defined for acute angles.
- ✓ Finds values of trigonometric ratios at 0° , 30° , 45° , 60° and 90° .
- ✓ Establishes relationships between trigonometric ratios.
- ✓ Applies trigonometric ratios in solving problems.

1 TRIGONOMETRIC RATIOS OF AN ACUTE ANGLE



$$\sin \theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$$

$$\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$$

$$\tan \theta = \frac{\text{Opposite}}{\text{Adjacent}}$$

$$\operatorname{cosec} \theta = \frac{\text{Hypotenuse}}{\text{Opposite}}$$

$$\sec \theta = \frac{\text{Hypotenuse}}{\text{Adjacent}}$$

$$\cot \theta = \frac{\text{Adjacent}}{\text{Opposite}}$$

Proof of existence (well defined):

In a right-angled triangle, for any acute θ , the lengths of the sides are positive and the hypotenuse is non-zero.
Therefore, all the above ratios are well defined.

2 VALUES OF TRIGONOMETRIC RATIOS

θ	0°	30°	45°	60°	90°
$\sin \theta$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	Not defined
$\operatorname{cosec} \theta$	Not defined	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1
$\sec \theta$	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	Not defined
$\cot \theta$	Not defined	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0

3 RELATIONSHIPS BETWEEN THE RATIOS

★ All ratios are positive for $0^\circ < \theta < 90^\circ$.

★ Basic relationships:

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$1 + \tan^2 \theta = \sec^2 \theta$$

$$1 + \cot^2 \theta = \operatorname{cosec}^2 \theta$$

$$\tan \theta = \frac{\sin \theta}{\cos \theta} \quad (\cos \theta \neq 0)$$

$$\cot \theta = \frac{\cos \theta}{\sin \theta} \quad (\sin \theta \neq 0)$$

Note: All the ratios are positive in the first quadrant ($0^\circ < \theta < 90^\circ$).



SUMMARY – AT A GLANCE

Ratios	Formula
$\sin \theta$	→ Opposite / Hypotenuse
$\cos \theta$	→ Adjacent / Hypotenuse
$\tan \theta$	→ Opposite / Adjacent
$\operatorname{cosec} \theta$	→ Hypotenuse / Opposite
$\sec \theta$	→ Hypotenuse / Adjacent
$\cot \theta$	→ Adjacent / Opposite

★ Remember!

★ At 0° and 90° , some ratios are not defined because the denominator becomes zero.

★ Learn the values at 0° , 30° , 45° , 60° and 90° .



LEARNING OUTCOMES

After completing this part, students will be able to:

- ✓ Define trigonometric ratios in a right triangle.
- ✓ Prove the existence of the ratios.
- ✓ Find values of ratios at 0° , 30° , 45° , 60° and 90° .
- ✓ Establish relationships between the ratios.
- ✓ Apply these ratios in solving problems.



PREPARATION TIPS

- ➔ Memorize the standard values table.
- ➔ Understand the definitions clearly.
- ➔ Practice relationships between ratios.
- ➔ Solve NCERT examples and exercises.
- ➔ Make a formula sheet and revise daily.



QUICK REVISION CHECKLIST

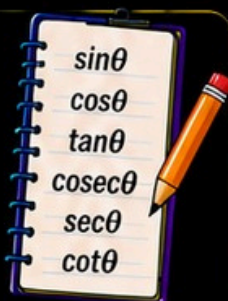
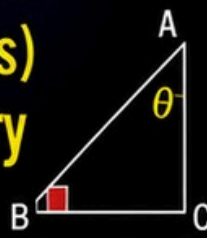
- ☐ Definitions of all ratios – revised
- ☐ Values at 0° , 30° , 45° , 60° , 90° – learned
- ☐ Relationships between ratios – revised
- ☐ Applications in basic examples – practiced
- ☐ NCERT exercises – completed
- ☐ Board level questions – practiced





UNIT V – TRIGONOMETRY (12 Marks)

Chapter 9 – Introduction to Trigonometry & Trigonometric Identities (Continued)



Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)

PART B – TRIGONOMETRIC IDENTITIES



OFFICIAL TOPICS COVERED

1 Proof and applications of the identity

$$\sin^2 A + \cos^2 A = 1.$$

2 Only simple identities to be given.

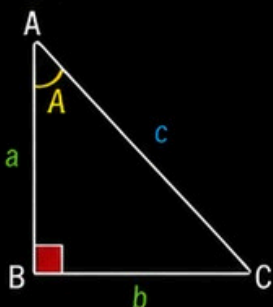


COMPETENCIES DEVELOPED

- ✓ Proves the fundamental identity $\sin^2 A + \cos^2 A = 1$.
- ✓ Uses identities to simplify trigonometric expressions.
- ✓ Applies identities in solving problems.
- ✓ Strengthens logical reasoning and mathematical proof.
- ✓ Enhances accuracy in algebraic manipulations.

1. PROOF OF THE IDENTITY $\sin^2 A + \cos^2 A = 1$

In right-angled $\triangle ABC$,
right-angled at B.



By Pythagoras Theorem,

$$c^2 = a^2 + b^2$$

Dividing both sides
by c^2 ,

$$\frac{a^2}{c^2} + \frac{b^2}{c^2} = \frac{c^2}{c^2} = 1$$

$$\left(\frac{a}{c}\right)^2 + \left(\frac{b}{c}\right)^2 = 1$$

Using definitions:

$$\sin A = \frac{a}{c} \quad \text{and} \quad \cos A = \frac{b}{c}$$

Therefore, $\sin^2 A + \cos^2 A = 1$

Proved

2. SIMPLE IDENTITIES (Derived from $\sin^2 A + \cos^2 A = 1$)

1 $\sin^2 A = 1 - \cos^2 A$

2 $\cos^2 A = 1 - \sin^2 A$

3 $1 + \tan^2 A = \sec^2 A$

4 $1 + \cot^2 A = \operatorname{cosec}^2 A$

5 $\tan A = \frac{\sin A}{\cos A} \quad (\cos A \neq 0)$

6 $\cot A = \frac{\cos A}{\sin A} \quad (\sin A \neq 0)$

7 $\sec A = \frac{1}{\cos A} \quad (\cos A \neq 0)$

8 $\operatorname{cosec} A = \frac{1}{\sin A} \quad (\sin A \neq 0)$

9 $\tan A \times \cot A = 1$
($\tan A, \cot A$ defined)

10 $\sec A \times \cos A = 1 \quad (\cos A \neq 0)$
 $\operatorname{cosec} A \times \sin A = 1 \quad (\sin A \neq 0)$

★ Note:

- All these identities hold true whenever the expressions are defined.
- These are simple identities to be used in simplification and problem solving.



APPLICATIONS

- ▶ To simplify trigonometric expressions.
- ▶ To prove other identities.
- ▶ To solve trigonometric equations.
- ▶ To find values of unknown ratios.
- ▶ Used in heights and distances problems.



EXAMPLE (Using Identity)

Simplify: $\sin^2 A + \cos^2 A + 2\cos^2 A$

Solution:

$$= (\sin^2 A + \cos^2 A) + 2\cos^2 A$$

$$= 1 + 2\cos^2 A \quad [\text{Using } \sin^2 A + \cos^2 A = 1]$$

$$= 1 + 2\cos^2 A$$



BOARD FOCUS

- ★ Proof of $\sin^2 A + \cos^2 A = 1$
- ★ Simple identities
- ★ Application based questions
- ★ NCERT Textbook Questions
- ★ Competency Based Questions
- ★ Previous Year Board Questions



PREPARATION TIPS

- ▶ Memorize the main identity $\sin^2 A + \cos^2 A = 1$.
- ▶ Practice deriving simple identities.
- ▶ Solve NCERT examples and exercises.
- ▶ Use identities to simplify complex expressions.
- ▶ Write steps neatly in proof based questions.



QUICK REVISION CHECKLIST

- ☐ I can prove $\sin^2 A + \cos^2 A = 1$.
- ☐ I know all the simple identities.
- ☐ I can apply identities in simplification.
- ☐ I have practiced NCERT questions.
- ☐ I can solve application based problems.



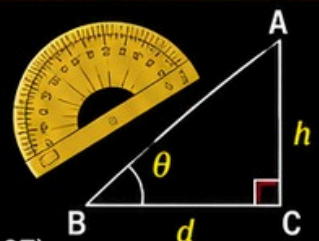


UNIT V – TRIGONOMETRY (12 Marks)



Chapter 10 – Some Applications of Trigonometry

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

HEIGHTS AND DISTANCES:

Angle of Elevation, Angle of Depression.

- 1 Simple problems on heights and distances.
- 2 Problems should not involve more than **two** right triangles.
- 3 Angles of elevation / depression should be only **30°, 45°, and 60°**.



COMPETENCIES DEVELOPED

- ✓ Applies trigonometric ratios in solving problems in daily life contexts like finding heights of different structures and distances from them.



LEARNING OUTCOMES

Students will be able to:

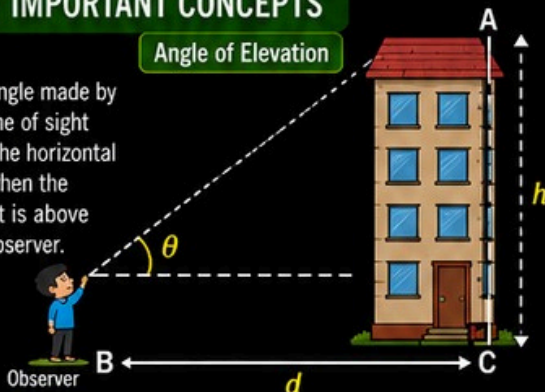
- ✓ Understand Angle of Elevation and Angle of Depression.
- ✓ Draw diagrams correctly.
- ✓ Apply trigonometric ratios in real-life situations.
- ✓ Solve board-level heights and distances questions confidently.



IMPORTANT CONCEPTS

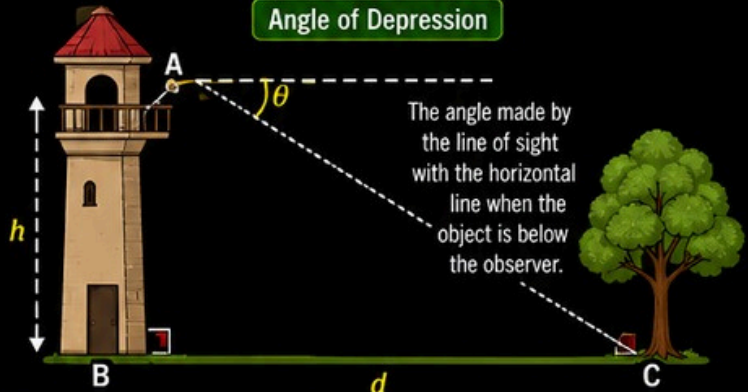
Angle of Elevation

The angle made by the line of sight with the horizontal line when the object is above the observer.



Angle of Depression

The angle made by the line of sight with the horizontal line when the object is below the observer.



IMPORTANT FORMULAS

$$\tan \theta = \frac{\text{Perpendicular}}{\text{Base}}$$

Used when height (h) and distance (d) are known.

$$\sin \theta = \frac{\text{Perpendicular}}{\text{Hypotenuse}}$$

Used when height (h) and line of sight (hypotenuse) are known.

$$\cos \theta = \frac{\text{Base}}{\text{Hypotenuse}}$$

Used when distance (d) and line of sight (hypotenuse) are known.

STANDARD VALUES (Remember!)

θ	0°	30°	45°	60°	90°
$\sin \theta$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	Not defined



BOARD FOCUS

- ★ Angle of Elevation
- ★ Angle of Depression
- ★ Right Triangle Formation
- ★ 30°, 45°, 60° Standard Values
- ★ Application-Based Questions
- ★ Competency-Based Questions
- ★ NCERT Questions



PREPARATION TIPS

- ➔ Draw neat, labelled diagrams before solving.
- ➔ Identify the right triangle correctly.
- ➔ Choose the correct trigonometric ratio.
- ➔ Memorize the values of 30°, 45°, and 60°.
- ➔ Practice NCERT examples and previous-year board questions.



EXAMPLE SCENARIO



From a point on the ground, the angle of elevation of the top of a building is 30°. If the distance of the point from the building is 40 m, find the height of the building.



From the top of a tower 50 m high, the angle of depression of a point on the ground is 45°. Find the distance of the point from the foot of the tower.



QUICK REVISION CHECKLIST

- ☐ Angle of Elevation concept
- ☐ Angle of Depression concept
- ☐ Trigonometric ratios (tan, sin, cos)
- ☐ Standard values (30°, 45°, 60°)
- ☐ Diagram practice
- ☐ Heights and distances problems
- ☐ NCERT exercises completed
- ☐ Board level questions practiced



UNIT VI – MENSURATION (10 Marks)

Chapter 11 – Areas Related to Circles

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

- 1 Area of sectors and segments of a circle.
- 2 Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60° , 90° and 120° only.)



IMPORTANT FORMULAS

1. Area of Sector (θ°)

$$\text{Area of sector} = \frac{\theta}{360^\circ} \times \pi r^2$$



2. Area of Segment (θ°)

$$\text{Area of segment} = \frac{\theta}{360^\circ} \times \pi r^2 - \frac{1}{2} r^2 \sin \theta$$



where, r = radius of the circle
 θ = central angle

DIAGRAMS FOR QUICK REFERENCE



$\theta = 60^\circ$

Area of sector

$$= \frac{1}{6} \pi r^2$$

Area of triangle

$$= \frac{\sqrt{3}}{4} r^2$$

Area of segment

$$= \frac{1}{6} \pi r^2 - \frac{\sqrt{3}}{4} r^2$$



$\theta = 90^\circ$

Area of sector

$$= \frac{1}{4} \pi r^2$$

Area of triangle

$$= \frac{1}{2} r^2$$

Area of segment

$$= \frac{1}{4} \pi r^2 - \frac{1}{2} r^2$$



$\theta = 120^\circ$

Area of sector

$$= \frac{1}{3} \pi r^2$$

Area of triangle

$$= \frac{\sqrt{3}}{4} r^2$$

Area of segment

$$= \frac{1}{3} \pi r^2 - \frac{\sqrt{3}}{4} r^2$$



LEARNING OUTCOMES

After studying this chapter, you will be able to:

- Find the area of a sector of a circle.
- Find the area of a segment for central angles 60° , 90° and 120° .
- Solve problems involving areas and perimeter/circumference of circle related figures.
- Apply concepts in real-life situations.



BOARD FOCUS

- Area of sectors and segments of a circle
- Perimeter / Circumference based problems
- Application based questions
- NCERT Textbook Questions
- Competency Based Questions
- Previous Year Board Questions



PREPARATION TIPS

- Memorize formulas for sector and segment.
- Remember values of $\sin 60^\circ$, $\sin 90^\circ$ and $\sin 120^\circ$.
- Practice diagrams neatly.
- Solve NCERT examples and exercises.
- Practice previous year board questions.



QUICK REVISION CHECKLIST

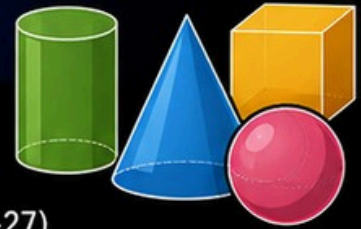
- Formula of area of sector
- Formula of area of segment
- Standard values (60° , 90° , 120°)
- Diagrams and concepts revised
- Perimeter / Circumference problems
- NCERT exercises completed
- Board level questions practiced





UNIT VI – MENSURATION (10 Marks)

Chapter 12 – Surface Areas and Volumes



Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)

OFFICIAL TOPICS COVERED

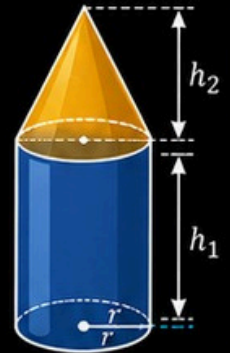
SURFACE AREAS AND VOLUMES

- 1 Surface areas and volumes of combinations of any two of the following:

cubes, cuboids, spheres, hemispheres and right circular cylinders/cones.

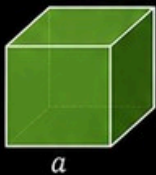
KEY CONCEPTS

- Find the total surface area (TSA) of the combined solid.
- Find the curved surface area (CSA) wherever required.
- Find the total volume of the combined solid.
- Identify the exposed surfaces only (hidden surfaces are not counted).



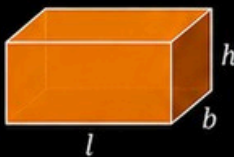
FORMULAS FOR BASIC SOLIDS

CUBE



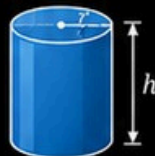
$$\begin{aligned} \text{TSA} &= 6a^2 \\ \text{LSA} &= 4a^2 \\ \text{Volume} &= a^3 \end{aligned}$$

CUBOID



$$\begin{aligned} \text{TSA} &= 2(lb + bh + hl) \\ \text{LSA} &= 2h(l + b) \\ \text{Volume} &= lbh \end{aligned}$$

RIGHT CIRCULAR CYLINDER



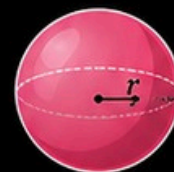
$$\begin{aligned} \text{CSA} &= 2\pi rh \\ \text{TSA} &= 2\pi r(h + r) \\ \text{Volume} &= \pi r^2 h \end{aligned}$$

RIGHT CIRCULAR CONE



$$\begin{aligned} \text{CSA} &= \pi rl \\ \text{TSA} &= \pi r(l + r) \\ \text{Volume} &= \frac{1}{3} \pi r^2 h \\ \text{where } l &= \text{slant height} \\ l &= \sqrt{r^2 + h^2} \end{aligned}$$

SPHERE



$$\begin{aligned} \text{SA} &= 4\pi r^2 \\ \text{Volume} &= \frac{4}{3} \pi r^3 \end{aligned}$$

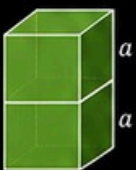
HEMISPHERE



$$\begin{aligned} \text{CSA} &= 2\pi r^2 \\ \text{TSA} &= 3\pi r^2 \quad (\text{including base}) \\ \text{Volume} &= \frac{2}{3} \pi r^3 \end{aligned}$$

COMMON COMBINATIONS (Any two of the given solids)

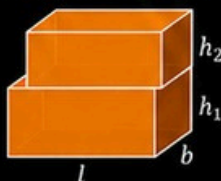
CUBE + CUBE



$$\begin{aligned} \text{TSA} &= 10a^2 \\ \text{Volume} &= 2a^3 \end{aligned}$$

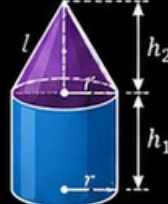
(One face is common and not exposed)

CUBOID + CUBOID



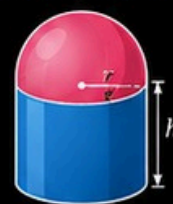
$$\begin{aligned} \text{TSA} &= 2(lb + bh_1 + lh_1) + 2(lb + bh_2 + lh_2) - 2lb \\ \text{Volume} &= lbh_1 + lbh_2 \end{aligned}$$

CYLINDER + CONE



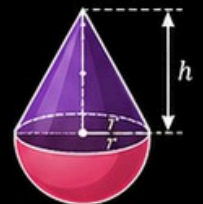
$$\begin{aligned} \text{TSA} &= 2\pi rh_1 + \pi rl + \pi r^2 \\ \text{Volume} &= \pi r^2 h_1 + \frac{1}{3} \pi r^2 h_2 \end{aligned}$$

CYLINDER + HEMISPHERE



$$\begin{aligned} \text{TSA} &= 2\pi rh + 2\pi r^2 \\ \text{Volume} &= \pi r^2 h + \frac{2}{3} \pi r^3 \end{aligned}$$

CONE + HEMISPHERE



$$\begin{aligned} \text{TSA} &= \pi rl + 2\pi r^2 \\ \text{Volume} &= \frac{1}{3} \pi r^2 h + \frac{2}{3} \pi r^3 \end{aligned}$$

★ Note: Consider only the exposed surfaces while finding total surface area.

LEARNING OUTCOMES

After studying this chapter, you will be able to:

- ✓ Find TSA and volume of each solid.
- ✓ Find TSA and volume of combinations of any two solids.
- ✓ Differentiate between CSA and TSA.
- ✓ Solve real-life and application based problems.
- ✓ Apply formulas accurately.



BOARD FOCUS

- ★ Combinations of two solids
- ★ TSA based problems
- ★ Volume based problems
- ★ Competency Based Questions
- ★ NCERT Textbook Questions
- ★ Previous Year Board Questions



PREPARATION TIPS

- Memorize formulas and practice regularly.
- Draw neat diagrams and label all dimensions.
- Identify the solid parts correctly.
- Calculate exposed surfaces only.
- Solve NCERT exercises and previous-year board questions.



QUICK REVISION CHECKLIST

- ☐ Formulas of all five solids revised
- ☐ CSA and TSA difference understood
- ☐ Combinations of two solids practiced
- ☐ TSA problems solved
- ☐ Volume problems solved
- ☐ NCERT exercises completed
- ☐ Board level questions practiced





UNIT VII – STATISTICS AND PROBABILITY (8 Marks)

Chapter 13 – Statistics



Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

- 1 **Mean, median and mode of grouped data**
(bimodal situation to be avoided).



KEY CONCEPTS

- ✓ Grouped data is arranged in class intervals with corresponding frequencies.
- ✓ Mean represents the average value.
- ✓ Median is the middle value when data is arranged in order.
- ✓ Mode is the value that occurs most frequently.
- ✓ Bimodal situations (two modes) are to be avoided.



IMPORTANT FORMULAS

1. MEAN ($\bar{x}$)

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

where f_i = frequency,
 x_i = class mark

2. MEDIAN (M)

$$M = l + \left(\frac{\frac{N}{2} - c_f}{f} \right) \times h$$

where,
 l = lower limit of median class
 N = total frequency
 c_f = cumulative frequency before median class
 f = frequency of median class
 h = class size

3. MODE (Z)

$$Z = l + \left(\frac{f_1 - f_0}{2f_1 - f_0 - f_2} \right) \times h$$

where,
 l = lower limit of modal class
 f_1 = frequency of modal class
 f_0 = frequency of class preceding modal class
 f_2 = frequency of class succeeding modal class
 h = class size



QUICK REFERENCE TABLE

Term	What it tells us
Mean	Average value of the data
Median	Middle value of the data
Mode	Most frequent value in the data

NOTES

- Use class marks for calculation of mean.
- Find the median class where cumulative frequency first exceeds $\frac{N}{2}$.
- Modal class has the highest frequency.
- Bimodal situations to be avoided.



EXAMPLE – GROUPED DATA TABLE

Class Interval	Frequency (f_i)	Class Mark (x_i)	$f_i x_i$	Cumulative Frequency (c.f.)
0 – 10	4	5	20	4
10 – 20	8	15	120	12
20 – 30	12	25	300	24
30 – 40	7	35	245	31
40 – 50	5	45	225	36
Total	36	–	910	–

- **Mean ($\bar{x}$)** = $\frac{\sum f_i x_i}{\sum f_i} = \frac{910}{36} = 25.28$
- **Median (M)**: $N = 36$, $\frac{N}{2} = 18$
Median class = 20 – 30 (c.f. first exceeds 18)
Here, $l = 20$, $c_f = 12$, $f = 12$, $h = 10$
 $M = 20 + \left(\frac{18 - 12}{12} \right) \times 10 = 20 + \left(\frac{6}{12} \right) \times 10 = 25$
- **Mode (Z)**: Modal class = 20 – 30
Here, $l = 20$, $f_1 = 12$, $f_0 = 8$, $f_2 = 7$, $h = 10$
 $Z = 20 + \left(\frac{12 - 8}{2(12) - 8 - 7} \right) \times 10 = 20 + \left(\frac{4}{9} \right) \times 10 = 24.44$



LEARNING OUTCOMES

After studying this chapter, you will be able to:

- ✓ Find mean, median and mode for grouped data.
- ✓ Use appropriate formulas accurately.
- ✓ Interpret results of central tendency in real-life situations.



BOARD FOCUS

- ★ Direct formula based questions
- ★ Application based questions
- ★ NCERT Textbook Questions
- ★ Competency Based Questions
- ★ Previous Year Board Questions



PREPARATION TIPS

- ➔ Understand the concepts clearly.
- ➔ Practice all three measures regularly.
- ➔ Make summary tables for quick revision.
- ➔ Solve NCERT exercises thoroughly.



QUICK REVISION CHECKLIST

- ☐ Mean formula revised
- ☐ Median steps revised
- ☐ Mode formula revised
- ☐ Class mark calculation
- ☐ Practice questions solved
- ☐ NCERT exercises completed
- ☐ Board level questions practiced





UNIT VII – STATISTICS AND PROBABILITY (11 Marks)

Chapter 14 – Probability

Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



OFFICIAL TOPICS COVERED

- 1 Classical definition of probability.
- 2 Simple problems on finding the probability of an event.



CLASSICAL DEFINITION OF PROBABILITY

If an experiment has n equally likely outcomes and m of them are favourable to an event E , then

$$P(E) = \frac{\text{Number of favourable outcomes}}{\text{Total number of equally likely outcomes}} = \frac{m}{n}$$

Properties:

- ★ $0 \leq P(E) \leq 1$
- ★ $P(\text{Impossible event}) = 0$
- ★ $P(\text{Certain event}) = 1$
- ★ $P(E') = 1 - P(E)$ (where E' is the event not E)



KEY CONCEPTS

- ✓ Probability tells us how likely an event is to occur.
- ✓ It is a number between 0 and 1 (inclusive).
- ✓ 0 means impossible, 1 means certain.
- ✓ If all outcomes are equally likely, we use the classical definition of probability.
- ✓ $P(E)$ = Probability of event E



COMMON EXPERIMENTS

Coin



Sample Space
 $S = \{H, T\}$
 $n(S) = 2$

Die



Sample Space
 $S = \{1, 2, 3, 4, 5, 6\}$
 $n(S) = 6$

Cards



Sample Space
 $S = \text{set of all 52 cards}$
 $n(S) = 52$

Spinner



Sample Space
 $S = \{1, 2, 3, 4\}$
 $n(S) = 4$

EXAMPLES

- 1 A coin is tossed once. Find the probability of getting a head.



$S = \{H, T\}$ $n(S) = 2$
Favourable outcomes (H) = 1
 $P(\text{Head}) = \frac{1}{2}$

- 2 A die is thrown once. Find the probability of getting a prime number.



$S = \{1, 2, 3, 4, 5, 6\}$ $n(S) = 6$
Prime numbers = $\{2, 3, 5\}$
Favourable outcomes = 3
 $P(\text{Prime number}) = \frac{3}{6} = \frac{1}{2}$

- 3 A card is drawn from a well-shuffled deck of 52 cards. Find the probability of getting a king.



$n(S) = 52$
Favourable outcomes (Kings) = 4
 $P(\text{King}) = \frac{4}{52} = \frac{1}{13}$

- 4 A spinner is divided into 4 equal parts numbered 1 to 4. Find the probability of getting a number greater than 2.



$S = \{1, 2, 3, 4\}$ $n(S) = 4$
Favourable outcomes = $\{3, 4\} = 2$
 $P(\text{Number} > 2) = \frac{2}{4} = \frac{1}{2}$



LEARNING OUTCOMES

After studying this chapter, you will be able to:

- ✓ Understand the classical definition of probability.
- ✓ Identify equally likely outcomes.
- ✓ Find probability of simple events.
- ✓ Solve real-life based problems using probability.



BOARD FOCUS

- ★ Classical definition of probability
- ★ $0 \leq P(E) \leq 1$
- ★ Simple probability problems (Coin, Die, Cards, Spinner)
- ★ NCERT Textbook Questions
- ★ Competency Based Questions
- ★ Previous Year Board Questions



PREPARATION TIPS

- ➔ Write the sample space (S) clearly.
- ➔ Count total outcomes (n) and favourable outcomes (m).
- ➔ Apply the formula $P(E) = \frac{m}{n}$ correctly.
- ➔ Practice NCERT examples and exercises.



QUICK REVISION CHECKLIST

- ☐ Classical definition understood
- ☐ Properties of probability revised
- ☐ Sample spaces practiced
- ☐ Coin, Die, Cards, Spinner examples
- ☐ Simple probability problems solved
- ☐ NCERT exercises completed
- ☐ Board level questions practiced



QUESTION PAPER DESIGN + INTERNAL ASSESSMENT



Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



CBSE QUESTION PAPER DESIGN (2026–27)

Section	Type of Questions	No. of Questions	Marks Allotted
Section A	MCQs (1 mark each)	20	20
Section B	Short Answer Type – I (2 marks each)	5	10
Section C	Short Answer Type – II (3 marks each)	6	18
Section D	Long Answer Type (5 marks each)	4	20
Section E	Case Study Based Questions (4 marks each)	3	12
Total		38	80

★ Note: There will be an overall choice in Section B, C, D & E.



IMPORTANT POINTS

- The question paper will be of **80 marks**.
- Duration of paper: **3 hours**.
- Internal choice in various sections.
- Section A is compulsory.
- All questions are to be attempted as per the instructions in the question paper.
- Case Study Based Questions (4 marks each) are included to assess application and higher order thinking skills.
- Competency Based Questions will be asked in Sections B, C, D & E.



★ INTERNAL ASSESSMENT (20 MARKS) ★

★ Internal Assessment of 20 marks will be as per CBSE guidelines and conducted by the school.



COMPONENTS OF INTERNAL ASSESSMENT

1 Periodic Tests (Best 2 out of 3) 10 Marks

Written tests of chapters/units covered.
(10 marks each test)

2 Mathematics Activities 5 Marks

Activities to be conducted to enhance understanding of mathematical concepts.
(Any 2 activities to be conducted)

3 Portfolio 5 Marks

Collection of student's work which may include:

- Classwork • Homework • Projects
- Assignments • Worksheets

(To be maintained throughout the year)



SUGGESTED MATHEMATICS ACTIVITIES (Examples)

- Making models of 3D shapes (e.g., cube, cuboid, cylinder, cone, sphere)
- Preparing charts/posters on formulas & theorems
- Maths in Real Life – Collection of real-life examples
- Mathematical Rangoli / Geometric patterns
- Maths Puzzle / Sudoku / Magic Square activity
- Data Collection & Representation (Statistics)
- Probability experiments using dice/coins/cards
- Making working models using maths concepts
- ICT based activity (GeoGebra / Excel / Desmos)
- Case Study discussion & presentation



GENERAL GUIDELINES

- Internal Assessment is to be done as per CBSE guidelines.
- Marks to be awarded on the basis of understanding, creativity, accuracy and presentation.
- Maintain proper records, worksheets and evidence of activities.
- Promote the holistic development of learners.
- Feedback must be given to help students improve.



TIPS FOR STUDENTS

- ★ Read the question paper carefully.
- ★ Attempt Section A first.
- ★ Manage your time: 3 hours = 180 minutes.
- ★ Write step-by-step solutions.
- ★ Draw neat diagrams and label clearly.
- ★ Revise NCERT examples and exercises.
- ★ Practice previous year board questions and sample papers.



“ Practice is the key to perfection. Stay consistent, stay confident and do your best! ”



BOARD PREPARATION TIPS + RESOURCES



Based on the Latest CBSE Class 10 Mathematics Syllabus (2026–27)



SMART STRATEGIES FOR BOARD SUCCESS

1 Understand Concepts Clearly

Build strong conceptual clarity from NCERT textbook and examples.



2 Follow NCERT First

NCERT is the Bible for board exams. Solve all examples and exercises.



3 Practice Regularly

Practice every day. Solve a variety of questions from easy to challenging.



4 Focus on Important Topics

Give more time to high-weightage topics as per the latest syllabus & blueprint.



5 Make Short Notes

Create formula sheets, theorems list, and important points for quick revision.



6 Solve Previous Year Papers

Solve at least the last 5–10 years board papers to understand patterns.



7 Time Management

Manage time in the exam: don't spend too much time on one question.



8 Write Neatly & Stepwise

Write answers in a neat and step-by-step manner.



9 Revise Smartly

Revise formulas, key points and important theorems regularly.



10 Stay Positive & Confident

Believe in yourself, stay calm and give your best!



TOP RESOURCES

- ✓ NCERT Textbook (Latest Edition)
- ✓ NCERT Exemplar Problems
- ✓ RD Sharma / RS Aggarwal (Practice Books)
- ✓ Previous Year Board Papers
- ✓ CBSE Sample Papers
- ✓ CBSE Question Bank
- ✓ Online Learning Platforms



MUST DO BEFORE EXAMS

- ✓ Complete NCERT exercises.
- ✓ Solve all in-text and exemplar questions.
- ✓ Practice case study & competency based questions.
- ✓ Attempt sample papers under exam conditions.
- ✓ Revise formulas & theorems daily.
- ✓ Work on weak areas.
- ✓ Discuss doubts and clarify concepts.
- ✓ Stay healthy and take short breaks.



ONLINE RESOURCES

- ▶ CBSE Official Website www.cbse.gov.in
- ▶ NCERT Official Website www.ncert.nic.in
- ▶ DIKSHA App (NCERT e-Resources)
- ▶ YouTube Channels (Maths Tutorials & Concept Videos)
- ▶ Educational Apps (GeoGebra, Desmos, Khan Academy)

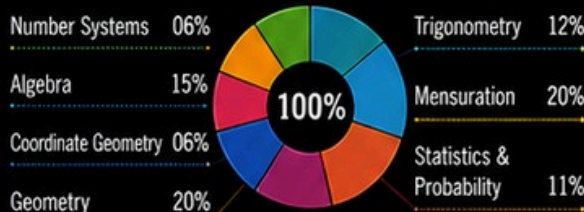


EXAM DAY CHECKLIST

- ✓ Reach exam centre on time.
- ✓ Carry Admit Card & all required stationery.
- ✓ Read instructions carefully.
- ✓ Plan your time for each section.
- ✓ Attempt easy questions first.
- ✓ Check your answers before submitting.
- ✓ Stay calm and confident.



SUBJECT-WISE WEIGHTAGE GUIDE*



*Approximate weightage as per latest syllabus & previous year trend. Focus more on high weightage topics.



FINAL TIP

"CONSISTENCY TODAY, SUCCESS TOMORROW."

Stay focused, keep practicing and make every day count!

YOU CAN DO IT!

“ Hard work + Smart work + Regular practice = Excellent Results ”





Thank You!

for Downloading the PDF!



Thank you for downloading the
CBSE Class 10 Mathematics Syllabus Handbook (2026–27).

We hope this handbook helps you prepare with confidence
and achieve excellent results in your board examinations.

EXPLORE MORE

FREE RESOURCES

★ TO HELP YOU SUCCEED ★



**CHAPTER-WISE
NOTES**

Easy-to-understand
notes for all
chapters.



**FORMULA
SHEETS**

Important formulas
in a quick
revision format.



**PREVIOUS YEAR
QUESTIONS**

Chapter-wise PYQs
to understand
exam patterns.



**MCQs &
IMPORTANT
QUESTIONS**

Practice with MCQs
& important
questions.



MIND MAPS

Visual learning
with easy
mind maps.



**ONE-SHOT
REVISION**

Quick revision
videos before
your exams.



**Stay Consistent,
Stay Focused,
and Keep Learning!**

You Can Do It! ★

“

*Success is the sum of
small efforts, repeated
day in and day out.*

”

– Robert Collier

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