NCERT Solutions CBSE Free for Class 11th Maths Chapter 3 Trigonometric Functions | Updated 2026-27

⚡ Quick Revision Box — Chapter 3 Trigonometric Functions

- **Radian-Degree Relation:** π radians = 180°, so 1° = π/180 rad and 1 rad = (180°)/(π)
- **Arc Length Formula:** $l = r\theta$ where θ is in radians
- **Quadrant Sign Rule (ASTC):** All positive (Q1), Sin/Cosec positive (Q2), Tan/Cot positive (Q3), Cos/Sec positive (Q4)
- **Pythagorean Identities:** $\sin^2 x + \cos^2 x = 1$, $1 + \tan^2 x = \sec^2 x$, $1 + \cot^2 x = \csc^2 x$
- **Sum Formula:** $\sin(A+B) = \sin A \cos B + \cos A \sin B$
- **Difference Formula:** $\cos(A-B) = \cos A \cos B + \sin A \sin B$
- **Periodicity:** sin and cos repeat every 2π; tan and cot repeat every π
- **Removed from CBSE 2026-27:** Ex 3.4 (Trigonometric Equations) is NOT in the current rationalised syllabus

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The **NCERT solutions CBSE free for class 11th maths chapter 3 trigonometric functions** on this page are fully updated for the **2026-27** academic year and cover every question in Exercises 3.1, 3.2, 3.3, and the Miscellaneous Exercise with clear step-by-step working. You can also explore all subjects on our NCERT Solutions hub or go directly to the NCERT Solutions for Class 11 page for other chapters. These solutions are based on the official NCERT official textbook and align with the latest CBSE rationalised syllabus.

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Chapter Overview — NCERT Solutions CBSE Free for Class 11th Maths Chapter 3 Trigonometric Functions

Chapter 3 of the NCERT Class 11 Mathematics textbook extends your understanding of trigonometry beyond acute angles to any real number. You will study radian measure, the unit circle definition of trigonometric functions, their signs in different quadrants, periodicity, and the powerful sum-and-difference identities. This chapter forms the backbone of calculus, coordinate geometry, and physics topics you will encounter in Class 12 and competitive exams like JEE.

For the CBSE 2026-27 board exam, Trigonometric Functions falls under the **Algebra** unit which carries approximately **13 marks**. Questions appear as 2-mark short answers (prove identities, find values) and 5-mark long answers (multi-step proofs). MCQs based on quadrant signs and standard values are common in internal assessments.

Before starting this chapter, make sure you are comfortable with basic right-triangle trigonometry from Class 10, the Pythagorean theorem, and algebraic manipulation of fractions. The chapter is covered in the **NCERT Mathematics Part I, Class 11, Chapter 3**.

Detail	Information
Chapter	3 — Trigonometric Functions
Textbook	NCERT Mathematics Part I, Class 11
Subject	Mathematics
CBSE Unit	Algebra
Approximate Marks Weightage	13 marks (Algebra unit)
Difficulty Level	Medium to Hard
Academic Year	2026-27

Key Concepts and Formulas — Trigonometric Functions Class 11

Radian and Degree Conversion

An **angle** (कोण) is measured in degrees or radians. The relation between them is:

$$\pi \text{ radians} = 180^\circ$$

To convert degrees to radians, multiply by π/180. To convert radians to degrees, multiply by 180/π.

Arc Length and Central Angle

In a circle of radius r, if an arc of length l subtends a central angle θ (in radians), then:

$$l = r\theta \Rightarrow \theta = l/r$$

This is the most-tested formula in Exercise 3.1.

Quadrant Sign Rules (ASTC)

The signs of trigonometric functions depend on the quadrant in which the angle lies. Use the mnemonic **ASTC — All Students Take Calculus**: All positive in Q1, Sin in Q2, Tan in Q3, Cos in Q4.

Pythagorean Identities (मूलभूत सर्वसमिकाएँ)

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

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

$$1 + \cot^2 x = \csc^2 x$$

Sum and Difference Formulas

$$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$$

$$\cos(A \pm B) = \cos A \cos B \text{ mp } \sin A \sin B$$

$$\tan(A + B) = (\tan A + \tan B)/(1 - \tan A \tan B)$$

$$\tan(A - B) = (\tan A - \tan B)/(1 + \tan A \tan B)$$

Product-to-Sum and Sum-to-Product Formulas

$$\sin A + \sin B = 2 \sin(A+B/2)\cos(A-B/2)$$

$$\sin A - \sin B = 2 \cos(A+B/2)\sin(A-B/2)$$

$$\cos A + \cos B = 2 \cos(A+B/2)\cos(A-B/2)$$

$$\cos A - \cos B = -2 \sin(A+B/2)\sin(A-B/2)$$

NCERT Solutions Exercise 3.1 — Radian and Degree Measure

Exercise 3.1 tests your ability to convert between degrees and radians, apply the arc length formula, and solve problems involving circles. These are 2-3 mark questions in board exams.

Question 1

Easy

Find the radian measures corresponding to the following degree measures: (i) 25° (ii) –47°30′ (iii) 240° (iv) 520°

(i) 25°

Step 1: Use the conversion formula: multiply degrees by π/180.

$$25° = 25 \times \pi/180 = (25\pi)/(180) = (5\pi)/(36) \text{ radians}$$

∴ **25° = (5π)/(36) radians**

(ii) –47°30′

Step 1: Convert 30 minutes to degrees: 30' = 30/60° = 1/2°. So –47°30′ = -471/2° = -95/2°.

Step 2: Convert to radians:

$$-95/2 \times \pi/180 = -(95\pi)/(360) = -(19\pi)/(72) \text{ radians}$$

∴ **–47°30′ = -(19π)/(72) radians**

(iii) 240°

Step 1: Multiply by π/180:

$$240 \times \pi/180 = (240\pi)/(180) = (4\pi)/(3) \text{ radians}$$

∴ **240° = (4π)/(3) radians**

(iv) 520°

$$520 \times \pi/180 = (520\pi)/(180) = (26\pi)/(9) \text{ radians}$$

∴ **520° = (26π)/(9) radians**

Board Exam Note: This type of question typically appears in 2-3 mark sections. Always simplify the fraction fully and keep π in the answer.

Question 2

Easy

Find the degree measures corresponding to the following radian measures (Use π = 22/7): (i) 11/16 (ii) -4 (iii) (5π)/(3) (iv) (7π)/(6)

(i) 11/16 radians

Step 1: Multiply by 180/π:

$$11/16 \times 180/\pi = (11 \times 180)/(16\pi) = (11 \times 180 \times 7)/(16 \times 22) = 315/8 = 39.375°$$

Step 2: Convert 0.375° to minutes: 0.375 × 60 = 22.5', i.e., 22′30″.

∴ **11/16 rad = 39°22′30″**

(ii) –4 radians

Step 1: -4 × 180/π = -4 × (180 × 7)/(22) = -(5040)/(22) = -2291/11°

Step 2: 1/11° = 60/11' = 55/11'; 5/11' = 300/11" ≈ 27"

∴ **–4 rad ≈ –229°5′27″**

(iii) (5π)/(3) radians

Step 1: (5π)/(3) × 180/π = (5 × 180)/(3) = 300°

∴ **(5π)/(3) rad = 300°**

(iv) (7π)/(6) radians

Step 1: (7π)/(6) × 180/π = (7 × 180)/(6) = 210°

∴ **(7π)/(6) rad = 210°**

Board Exam Note: When converting radians to degrees-minutes-seconds, show each conversion step clearly for full marks.

Question 3

Medium

A wheel makes 360 revolutions in one minute. Through how many radians does it turn in one second?

Key Concept: One complete revolution = 2π radians.

Step 1: Revolutions per second = 360/60 = 6 revolutions per second.

Step 2: Radians per second = 6 × 2π = 12π radians.

∴ **The wheel turns 12π radians in one second.**

Board Exam Note: This application question appears in 2-3 mark sections. State the formula 1 revolution = 2π rad explicitly.

Question 4

Medium

Find the degree measure of the angle subtended at the centre of a circle of radius 100 cm by an arc of length 22 cm. (Use $\pi = 22/7$)

Step 1: Use $\theta = l/r$: $\theta = 22/100 = 11/50$ radians.

Step 2: Convert to degrees: $11/50 \times 180/\pi = (11 \times 180 \times 7)/(50 \times 22) = (13860)/(1100) = 63/5 = 12.6°$

Step 3: $0.6° = 0.6 \times 60' = 36'$

$\therefore$ **The angle is 12°36′.**

Board Exam Note: Always convert the final radian answer to degrees-minutes for full marks when the question specifies degree measure.

Question 5

Medium

In a circle of diameter 40 cm, the length of a chord is 20 cm. Find the length of the minor arc of the chord.

Step 1: Radius r = 20 cm. Chord AB = 20 cm = radius. So triangle OAB is equilateral.

Step 2: Each angle of an equilateral triangle = $60° = \pi/3$ radians.

Step 3: Arc length = $r\theta = 20 \times \pi/3 = (20\pi)/(3)$ cm.

$\therefore$ **Length of minor arc = $(20\pi)/(3)$ cm**

Board Exam Note: Recognising the equilateral triangle is the key insight. Mention it explicitly in your answer.

Question 6

Medium

If in two circles, arcs of the same length subtend angles 60° and 75° at the centre, find the ratio of their radii.

Step 1: Convert: $60° = \pi/3$ rad, $75° = (5\pi)/(12)$ rad.

Step 2: Since arc length l is the same: $l = r_1 \cdot \pi/3 = r_2 \cdot (5\pi)/(12)$.

Step 3: $r_1/r_2 = (5\pi/12)/(\pi/3) = (5\pi)/(12) \times 3/\pi = 5/4$.

$\therefore r_1 : r_2 = 5 : 4$

Board Exam Note: This ratio question appears frequently. Always convert degrees to radians before applying $l = r\theta$.

Question 7

Easy

Find the angle in radian through which a pendulum swings if its length is 75 cm and the tip describes an arc of length (i) 10 cm (ii) 15 cm (iii) 21 cm.

Why does this work? The pendulum tip traces an arc of a circle with radius = pendulum length.

(i) l = 10 cm

$$\theta = l/r = 10/75 = 2/15 \text{ radians}$$

$\therefore \theta = 2/15$ radians

(ii) l = 15 cm

$$\theta = 15/75 = 1/5 \text{ radians}$$

$\therefore \theta = 1/5$ radians

(iii) l = 21 cm

$$\theta = 21/75 = 7/25 \text{ radians}$$

$\therefore \theta = 7/25$ radians

Board Exam Note: Direct application of $\theta = l/r$. Show the substitution clearly.

NCERT Solutions Exercise 3.2 — Values of Trigonometric Functions

Exercise 3.2 asks you to find all six trigonometric functions when one is given, and to evaluate trig functions of large or negative angles using periodicity. These are important for class 11 maths ncert solutions and frequently appear in board exams.

Question 1

Medium

Find the values of other five trigonometric functions if cos x = -1/2, x lies in the third quadrant.

Step 1: sec x = (1)/(cos x) = -2

Step 2: $\sin^2 x = 1 - \cos^2 x = 1 - 1/4 = 3/4 \Rightarrow \sin x = -(\sqrt{3})/(2)$ (negative in Q3)

Step 3: csc x = (1)/(sin x) = -(2)/(√(3)) = -(2√(3))/(3)

Step 4: tan x = (sin x)/(cos x) = (-√(3)/2)/(-1/2) = √(3) (positive in Q3 ✓)

Step 5: cot x = (1)/(tan x) = (1)/(√(3)) = (√(3))/(3)

∴ **sin x = -(√(3))/(2),\ csc x = -(2√(3))/(3),\ tan x = √(3),\ cot x = (√(3))/(3),\ sec x = -2**

Board Exam Note: Always state the quadrant sign rule before writing the sign of each function. This earns method marks.

Question 2

Medium

Find the values of other five trigonometric functions if sin x = 3/5, x lies in the second quadrant.

Step 1: csc x = 5/3

Step 2: $\cos^2 x = 1 - 9/25 = 16/25 \Rightarrow \cos x = -4/5$ (negative in Q2)

Step 3: sec x = -5/4

Step 4: tan x = (3/5)/(-4/5) = -3/4 (negative in Q2 ✓)

Step 5: cot x = -4/3

∴ **cos x = -4/5,\ tan x = -3/4,\ csc x = 5/3,\ sec x = -5/4,\ cot x = -4/3**

Board Exam Note: In Q2, only sin and cosec are positive. Verify each sign before writing the final answer.

Question 6

Easy

Find the value of the trigonometric function sin 765°.

Step 1: sin repeats every 360°. 765° = 2 × 360° + 45°.

Step 2: sin 765° = sin 45° = (1)/(√(2)) = (√(2))/(2)

∴ **sin 765° = (√(2))/(2)**

Board Exam Note: Always reduce the angle using periodicity first. State the period explicitly.

Question 7

Easy

Find the value of the trigonometric function csc(-1410°).

Step 1: -1410° + 4 × 360° = -1410° + 1440° = 30°

Step 2: csc(-1410°) = csc 30° = 2

∴ **csc(-1410°) = 2**

Board Exam Note: For negative angles, add multiples of 360° until you get a standard angle.

Question 8

Easy

Find the value of tan(19π)/(3).

Step 1: tan repeats every π. (19π)/(3) = 6π + π/3. Since 6π is a multiple of π:

Step 2: tan(19π)/(3) = tanπ/3 = tan 60° = √(3)

∴ **tan(19π)/(3) = √(3)**

Board Exam Note: tan has period π, not 2π. Using 2π here is a common mistake.

NCERT Solutions Exercise 3.3 — Proving Trigonometric Identities

Exercise 3.3 is the most important exercise for board exams. It involves proving identities using sum-and-difference formulas, allied angle identities, and product-to-sum conversions. These are 5-mark long-answer questions in CBSE papers.

Question 1

Easy

Prove that: sin²π/6 + cos²π/3 - tan²π/4 = -1/2

Step 1: Substitute standard values: $\sin\pi/6 = 1/2, \cos\pi/3 = 1/2, \tan\pi/4 = 1$.

Step 2:

$$\text{LHS} = (1/2)^2 + (1/2)^2 - (1)^2 = 1/4 + 1/4 - 1 = 1/2 - 1 = -1/2 = \text{RHS}$$

$\therefore$ **LHS = RHS. Hence Proved.**

Board Exam Note: Always write "LHS = ... = RHS. Hence Proved." — this format is required for full marks.

Question 4

Easy

Prove that: $2\sin^2(3\pi)/(4) + 2\cos^2\pi/4 + 2\sec^2\pi/3 = 10$

Step 1: $\sin(3\pi)/(4) = \sin(\pi - \pi/4) = \sin\pi/4 = (1)/(\sqrt{(2)})$

Step 2: $\cos\pi/4 = (1)/(\sqrt{(2)}), \sec\pi/3 = 2$

Step 3:

$$\text{LHS} = 2\cdot 1/2 + 2\cdot 1/2 + 2\cdot 4 = 1 + 1 + 8 = 10 = \text{RHS}$$

Board Exam Note: Use allied angle identity $\sin(\pi - x) = \sin x$ explicitly in your working.

Question 5

Medium

Find the value of: (i) sin 75° (ii) tan 15°

(i) sin 75°

Step 1: Write 75° = 45° + 30° and apply the sum formula.

$$\sin 75° = \sin(45°+30°) = \sin 45°\cos 30° + \cos 45°\sin 30°$$

$$= (1)/(\sqrt{(2)})\cdot(\sqrt{(3)})/(2) + (1)/(\sqrt{(2)})\cdot 1/2 = (\sqrt{(3)}+1)/(2\sqrt{(2)}) = (\sqrt{(6)}+\sqrt{(2)})/(4)$$

$\therefore$ **sin 75° = (√(6)+√(2))/(4)**

(ii) tan 15°

Step 1: Write 15° = 45° - 30°.

$$\tan 15° = \tan(45°-30°) = (\tan 45° - \tan 30°)/(1 + \tan 45°\tan 30°) = (1 - (1)/(\sqrt{(3)}))/(1 + (1)/(\sqrt{(3)})) = (\sqrt{(3)}-1)/(\sqrt{(3)}+1)$$

Step 2: Rationalise: $((\sqrt{3}-1)^2)/((\sqrt{3})^2-1^2) = (3-2\sqrt{3}+1)/(2) = (4-2\sqrt{3})/(2) = 2-\sqrt{3}$

$\therefore$ **$\tan 15° = 2 - \sqrt{3}$**

Board Exam Note: Rationalising the denominator is mandatory. Leave the answer in surd form.

Question 8

Medium

Prove that: $(\cos(\pi+x)\cos(-x))/(\sin(\pi-x)\cos(\pi/2+x)) = \cot^2 x$

Step 1: Apply allied angle identities: $\cos(\pi+x) = -\cos x,\ \cos(-x) = \cos x,\ \sin(\pi-x) = \sin x,\ \cos(\pi/2+x) = -\sin x$.

Step 2:

LHS = $((-\cos x)(\cos x))/((\sin x)(-\sin x)) = (-\cos^2 x)/(-\sin^2 x) = (\cos^2 x)/(\sin^2 x) = \cot^2 x$ = RHS

Board Exam Note: List all allied angle identities used at the start. This shows systematic approach and earns method marks.

Question 12

Hard

Prove that: $\sin^2 6x - \sin^2 4x = \sin 2x \sin 10x$

Step 1: Use the identity $\sin^2 A - \sin^2 B = (\sin A + \sin B)(\sin A - \sin B)$.

Step 2: Apply sum-to-product: $\sin 6x + \sin 4x = 2\sin 5x\cos x$ and $\sin 6x - \sin 4x = 2\cos 5x\sin x$.

Step 3:

LHS = $(2\sin 5x\cos x)(2\cos 5x\sin x) = (2\sin 5x\cos 5x)(2\sin x\cos x) = \sin 10x \cdots \text{in } 2x$ = RHS

Board Exam Note: This is a 5-mark question. Show every factorisation step and name the identity used.

Formula Reference Table — Trigonometric Functions Chapter 3

Formula Name	Formula	Variables / Notes
Degree to Radian	$\theta_{rad} = \theta_{deg} \times \pi/180$	Multiply degrees by $\pi/180$
Radian to Degree	$\theta_{deg} = \theta_{rad} \times 180/\pi$	Multiply radians by $180/\pi$

Formula Name	Formula	Variables / Notes
Arc Length	$l = r\theta$	θ must be in radians
Pythagorean Identity 1	$\sin^2 x + \cos^2 x = 1$	All quadrants
Pythagorean Identity 2	$1 + \tan^2 x = \sec^2 x$	$x \neq \pi/2 + n\pi$
Pythagorean Identity 3	$1 + \cot^2 x = \csc^2 x$	$x \neq n\pi$
sin(A+B)	sin Acos B + cos Asin B	Sum formula
cos(A+B)	cos Acos B - sin Asin B	Sum formula
tan(A+B)	(tan A + tan B)/(1 - tan Atan B)	Sum formula
sin A + sin B	2sinA+B/2cosA-B/2	Sum-to-product
cos A − cos B	-2sinA+B/2sinA-B/2	Sum-to-product

Important Questions for CBSE Board Exam — Chapter 3 Trigonometric Functions

1-Mark Questions (Definition / Standard Value)

1. What is the radian measure of 180°? **Answer: π radians**
2. What is the period of tan x? **Answer: π radians (180°)**
3. In which quadrant is cos x negative and sin x positive? **Answer: Second quadrant**

3-Mark Questions

Q1: Find the value of sin(-(11π)/(3)).

Solution: sin(-(11π)/(3)) = -sin(11π)/(3) = -sin(4π - π/3) = -(-sinπ/3) = sinπ/3 = (√(3))/(2). **Answer: (√(3))/(2)**

Q2: If tan x = -5/12 and x lies in the second quadrant, find sec x.

Solution: $\sec^2 x = 1 + \tan^2 x = 1 + 25/144 = 169/144 \Rightarrow \sec x = -13/12$ (negative in Q2). **Answer: -13/12**

5-Mark Questions (Proof)

Q1: Prove that sin 2x + 2sin 4x + sin 6x = 4cos² xsin 4x.

Solution: Group sin 2x + sin 6x = 2sin 4xcos 2x (sum-to-product). Then LHS = 2sin 4xcos 2x + 2sin 4x = 2sin 4x(cos 2x + 1) = 2sin 4x(2cos² x - 1 + 1) = 2sin 4x · 2cos² x = 4cos² xsin 4x = RHS. Hence Proved.

Common Mistakes Students Make in Chapter 3

Mistake 1: Using the arc length formula $l = r\theta$ with θ in degrees.

Why it's wrong: The formula only works when θ is in radians. Plugging in degrees gives a completely wrong answer.

Correct approach: Always convert degrees to radians first, then apply $l = r\theta$.

Mistake 2: Applying the wrong period — using 2π for tan and cot.

Why it's wrong: tan and cot have period π, not 2π. Using 2π still gives the correct answer sometimes, but the working is unnecessarily long and may lose marks.

Correct approach: Reduce using π for tan/cot, 2π for sin/cos/sec/csc.

Mistake 3: Forgetting the quadrant sign when finding remaining trig functions.

Why it's wrong: $\cos^2 x = 16/25$ gives $\cos x = \pm 4/5$. Students often write +4/5 without checking the quadrant.

Correct approach: Always identify the quadrant first and apply ASTC to determine the correct sign.

Mistake 4: In proofs, starting from both sides simultaneously.

Why it's wrong: CBSE expects you to start from one side (usually LHS) and reach the other side. Working on both sides simultaneously is not accepted.

Correct approach: Start with LHS, apply identities step by step, and write "= RHS. Hence Proved."

Mistake 5: Confusing $\sin^2 x$ with $\sin(2x)$.

Why it's wrong: $\sin^2 x = (\sin x)^2$ while $\sin 2x = 2\sin x\cos x$. These are completely different expressions.

Correct approach: Read the notation carefully. $\sin^2 x$ means the square of $\sin x$.

Exam Tips for 2026-27 — Trigonometric Functions CBSE Board

📝 CBSE 2026-27 Exam Tips for Chapter 3

- **Memorise the standard values table** for sin, cos, tan at 0°, 30°, 45°, 60°, 90°. These appear in almost every question.

- **For proof questions (5 marks):** Write "LHS =" at the start, show every algebraic step on a new line, and end with "= RHS. Hence Proved." The CBSE 2026-27 marking scheme awards 1 mark per correct step.
- **Ex 3.4 (Trigonometric Equations) is removed** from the current CBSE rationalised syllabus. Do not waste time on it for board exams — focus on Ex 3.1, 3.2, 3.3, and Miscellaneous.
- **Arc length problems** from Ex 3.1 are easy 2-mark scoring questions. Always write the formula $l = r\theta$ first, then substitute.
- **For "find all six trig functions" questions:** Use a structured format — write all six values clearly labelled. Missing even one value can cost you a mark.
- **Rationalise surds** in final answers. Leaving $(\sqrt{3}-1)/(\sqrt{3}+1)$ unsimplified loses marks.

For more chapter-wise solutions, visit our NCERT Solutions for Class 11 page, or explore the full NCERT Solutions library for all classes.

Frequently Asked Questions — Trigonometric Functions Class 11

How do you convert degrees to radians in Class 11 Chapter 3?

To convert degrees to radians, multiply the degree value by $\pi/180$. For example, $90° = 90 \times \pi/180 = \pi/2$ radians. This comes from the fundamental relation π radians = 180°. Always simplify the fraction and keep π in the answer unless a decimal approximation is asked.

How do you find the other five trigonometric functions given one value?

First, identify which quadrant the angle lies in and note the sign rules (ASTC). Then use the reciprocal relations ($\csc = 1/\sin$, etc.) and Pythagorean identities ($\sin^2 x + \cos^2 x = 1$) to find the remaining values. Always assign the correct sign based on the quadrant before writing the final answer. This is the standard method for all Exercise 3.2 questions.

Which exercises are in NCERT Class 11 Maths Chapter 3 for CBSE 2026-27?

For CBSE 2026-27, the relevant exercises are Ex 3.1 (radian-degree conversion, arc length), Ex 3.2 (finding trig values, periodicity), Ex 3.3 (proving identities using sum-difference formulas), and the Miscellaneous Exercise. Exercise 3.4 on Trigonometric Equations has been removed from the rationalised CBSE syllabus and is not required for board exams.

How many marks does Trigonometric Functions carry in CBSE Class 11 Maths?

Trigonometric Functions is part of the Algebra unit in CBSE Class 11 Maths, which carries approximately 13 marks in the annual examination. Questions from this chapter appear as 2-3 mark short answers (finding trig values, converting measures) and 5-mark long answers (proving identities). It is one of the highest-weightage chapters in Class 11 Maths.

Where can I download NCERT Solutions for Class 11 Maths Chapter 3 PDF for 2026-27?

You can access the complete NCERT solutions for Class 11 Maths Chapter 3 Trigonometric Functions on this page — all exercises are solved step-by-step and updated for 2026-27. For the official textbook PDF, visit the NCERT official website. Our solutions cover Ex 3.1, Ex 3.2, Ex 3.3, and the Miscellaneous Exercise with full working and LaTeX-rendered formulas.

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