

CLASS 9

MATHEMATICS

EXTRA QUESTIONS

Class 9 Mathematics Chapter 5 I'm Up and Down, and Round and Round – Extra Questions with Answers

Extra practice questions for Class 9 Maths Chapter 5 (I'm Up and Down, and Round and Round), beyond the textbook. These Class 9 Mathematics Chapter 5 important questions are handy for last-minute exam practice.

Contents

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- Short Answer Questions (2–3 marks)
- Higher-Order Thinking / Application Questions
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Extra practice questions for Class 9 Maths Chapter 5 (I'm Up and Down, and Round and Round), beyond the textbook. These Class 9 Mathematics Chapter 5 important questions are handy for last-minute exam practice.

Very Short Answer Questions (1 mark)

Q1. What is the angle subtended by a diameter at any point on the circle?

Ans: 90° .

Q2. What line always passes through the centre of a circle when drawn perpendicular to a chord from the centre?

Ans: The line bisects the chord (perpendicular from centre bisects the chord).

Q3. In a cyclic quadrilateral, if one angle is 70° , what is its opposite angle?

Ans: 110° (since opposite angles are supplementary: $180 - 70 = 110$).

Q4. What is the longest chord of a circle called?

Ans: The diameter.

Q5. If an arc subtends 80° at the centre, what angle does it subtend at a point on the remaining circle?

Ans: 40° (half of the central angle).

Short Answer Questions (2–3 marks)

Q6. Two chords of a circle are equal in length. What can you conclude about the angles they subtend at the centre, and why?

Ans: The angles they subtend at the centre are also equal, because equal chords of a circle always subtend equal angles at the centre — this is a direct property of circles.

Q7. In a cyclic quadrilateral ABCD, angle A = 85° and angle B = 95° . Find angles C and D.

Ans: Since opposite angles are supplementary: angle C = $180 - \text{angle A} = 180 - 85 = 95^\circ$. Angle D = $180 - \text{angle B} = 180 - 95 = 85^\circ$.

Q8. Explain why the perpendicular bisector of any chord of a circle must pass through the centre.

Ans: Every point on the perpendicular bisector of a chord is equidistant from the chord's two endpoints. Since the centre of the circle is, by definition, equidistant from every point on the circle (including both endpoints of the chord), the centre must lie on this perpendicular bisector.

Higher-Order Thinking / Application Questions

Q9. A triangle is inscribed in a semicircle such that one side is the diameter. Prove, using the angle-in-a-semicircle property, that the triangle must be right-angled, and identify which angle is 90° .

Ans: Since one side of the triangle is the diameter of the circle, and the diameter subtends an angle of 90° at any point on the remaining part of the circle (where the third vertex lies), the angle at that third vertex (opposite the diameter) must be 90° . This proves the triangle is right-angled, with the right angle at the vertex not on the diameter.

Q10. A cyclic quadrilateral has one exterior angle of 65° at a vertex. Find the interior opposite

angle, and explain the property you used.

Ans: The interior opposite angle is 65° , since in a cyclic quadrilateral, the exterior angle at any vertex equals the interior angle opposite to it — a property that follows directly from the fact that opposite interior angles are supplementary (the exterior angle is itself supplementary to its adjacent interior angle, making it numerically equal to the opposite interior angle).

Class 9 Mathematics Chapter 5 – Solutions and Notes

For complete step-by-step answers and a quick summary, check the [Class 9 Mathematics Chapter 5 Solutions](#) and [Class 9 Mathematics Chapter 5 Revision Notes](#).

See also: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#)

Practice more: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#)

Quick revision: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#)