

Maths — real board questions: practice sheet

Every question is from a past CBSE board paper; the year is shown with each.

Section A: 20 MCQs × 1 mark

Section B: 15 questions

Answer key: last page

Section A — Multiple-choice questions

- The HCF of 960 and 432 is : [CBSE 2026]
(A) 48 (B) 54 (C) 72 (D) 36
- How many zeroes does $p(x) = (x - 2)(x + 3)$ have ? [CBSE 2026]
(A) Zero (B) One (C) Two (D) Three
- The number of solutions of the system of equations $x = 3, y = -1$ is : [CBSE 2025]
(A) 0 (B) 1 (C) 2 (D) Infinite
- The roots of the quadratic equation $(x - 1)^2 = 16$ are : [CBSE 2026]
(A) 5, 3 (B) 4, -4 (C) 5, -3 (D) -5, 3
- The number of multiples of 4 lying between 12 and 250 is : [CBSE 2026]
(A) 59 (B) 59.5 (C) 60 (D) 61
- If triangle ABC and triangle DEF are similar, where $2AB = DE$ and $BC = 8$ cm, then EF is equal to : [CBSE 2026]
(A) 4 cm (B) 8 cm (C) 12 cm (D) 16 cm
- The distance of the point $A(4a, 3a)$ from x-axis is : [CBSE 2026]
(A) $3a$ (B) $-3a$ (C) $4a$ (D) $-4a$
- If $\cos A = 4/5$, then the value of $\tan A$ is : [CBSE 2026]
(A) $3/5$ (B) $3/4$ (C) $4/3$ (D) $5/3$
- If the length of the shadow of a tower is $\sqrt{3}$ times that of its height, then altitude of the Sun is : [CBSE 2026]
(A) 45° (B) 30° (C) 60° (D) 15°
- If TP and TQ are two tangents to a circle with centre O from an external point T so that angle $POQ = 120$ degree, then angle PTQ is equal to : [CBSE 2026]
(A) 60 degree (B) 70 degree (C) 80 degree (D) 90 degree
- The area of a semicircle of diameter 'd' is : [CBSE 2026]
(A) $\pi d^2 / 16$ (B) $\pi d^2 / 4$ (C) $\pi d^2 / 8$ (D) $\pi d^2 / 2$
- The volume of a sphere is $36\pi \text{ cm}^3$, then its radius (in cm) is : [CBSE 2026]
(A) 3 (B) $3\sqrt{3}$ (C) $3^2/3$ (D) $3^1/3$
- If the mean and mode of a data are 12 and 21 respectively, then its median is : [CBSE 2026]
(A) 6 (B) 13.5 (C) 15 (D) 14
- For an event E, $P(E) + P(\bar{E}) = x$, then the value of $x^2 - 3$ is : [CBSE 2026]
(A) -2 (B) 2 (C) 1 (D) -1
- The LCM of 960 and 240 is : [CBSE 2026]
(A) 960 (B) 240 (C) 60 (D) 15
- A polynomial $p(x)$, which has sum of its zeroes equal to their product, is : [CBSE 2026]
(A) $3x^2 + 2x + 2$ (B) $3x^2 - 2x - 3$
(C) $3x^2 - 2x + 2$ (D) $x^2 - 3x + 2$
- The number of solutions of the system of equations $x = a, x = b$ ($a \neq b$) is : [CBSE 2025]
(A) 0 (B) 1
(C) 2 (D) infinitely many
- The value of k for which the equation $5x^2 - 2x + k = 0$ has equal real roots, is : [CBSE 2026]
(A) 5 (B) $-1/5$ (C) $1/5$ (D) 0
- nth term of an A.P. is $5n - 15$. The common difference of the A.P. is : [CBSE 2026]
(A) $5n$ (B) 5 (C) -5 (D) 10
- In triangles ABC and PQR, angle A = angle Q and angle B = angle R, then $AB : AC$ is equal to : [CBSE 2026]
(A) PQ : PR (B) PQ : QR (C) QR : QP (D) PR : QR



Model answers to Section B, mark by mark — with Medha Ma'am on MedhaSetu:
medhasetu.com/cbse

Questions from the chapter pages on medhasetu.com, taken from CBSE's real papers. Key as per the board.

Maths

Section B — Questions asked more than once (answer in your notebook)

21. Prove that $2 - 5\sqrt{3}$ is an irrational number given that $\sqrt{3}$ is irrational. [2023, 2026 · 2 marks]
22. Find the HCF of 84 and 144 by prime factorisation method. [2023, 2024 · 2 marks]
23. Find the LCM of 231 and 396 by prime factorisation method. [2023, 2024 · 2 marks]
24. Find the zeroes of the quadratic polynomial $x^2 + 7x + 10$, and verify the relationship between the zeroes and its coefficients. [2023, 2026 · 2 marks]
25. Two concentric circles are of radii 5 cm and 4 cm. Find the length of the chord of the larger circle which touches the smaller circle. [2023, 2025, 2026 · 2 marks]
26. Prove that the tangents drawn at the ends of a diameter of a circle are parallel. [2023, 2024, 2025 · 2 marks]
27. Prove that $\sqrt{3}$ is an irrational number. [2023, 2024, 2025, 2026 · 3 marks]
28. Prove that $2 + 5\sqrt{3}$ is an irrational number, if it is given that $\sqrt{3}$ is an irrational number. [2023, 2024 · 3 marks]
29. Find the zeroes of the polynomial $p(x) = 4x^2 - 4x - 3$ and verify the relationship between its coefficients and zeroes. [2023, 2025 · 3 marks]
30. Find the zeroes of the polynomial $p(x) = 6x^2 + 13x - 5$ and verify the relationship between its zeroes and the coefficients. [2023, 2025 · 3 marks]
31. Prove that : $\sin \theta / (1 + \cos \theta) + (1 + \cos \theta) / \sin \theta = 2 \operatorname{cosec} \theta$ [2023, 2024 · 3 marks]
32. If $\sin \theta + \cos \theta = p$ and $\sec \theta + \operatorname{cosec} \theta = q$, then prove that $q(p^2 - 1) = 2p$. [2023, 2024 · 3 marks]
33. Prove that a parallelogram circumscribing a circle, is a rhombus. [2024, 2025, 2026 · 3 marks]
34. Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle. [2025, 2026 · 3 marks]
35. The angle of elevation of the top of a building from the foot of the tower is 30 degree and the angle of elevation of the top of the tower from the foot of the building is 60 degree. If the tower is 60 m high, find the height of the building and distance between the building and the tower. (Use $\sqrt{3} = 1.73$) [2025, 2026 · 5 marks]



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Maths — Answer key — Section A

Teachers: for checking after a class test. Students: solve first, then compare.

1. A	2. C	3. B	4. C	5. A	6. D	7. A	8. B	9. B	10. A
11. C	12. A	13. C	14. A	15. A	16. C	17. A	18. C	19. B	20. C

Score: 1 mark per correct answer. Got one wrong? Go back to that chapter before ticking "Practised" on your tracker. Section B model answers — on MedhaSetu, with Medha Ma'am.



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