

# Tripura Board Class 10 2026 Mathematics (Basic) Question Paper

Time Allowed :3 Hours

Maximum Marks :80

Total questions :32

## General Instructions

Read the following instructions very carefully and strictly follow them:

1. The paper is divided into Section A and Section B.
2. Section A includes objective-type questions.
3. All questions in Section A are compulsory.
4. Section B includes short answer, and long answer type questions.
5. Answers must be written legibly within the word limit.
6. Use of unfair means or electronic devices is prohibited.
7. Follow the correct format and instructions for each section.

## Section - A

1. In the AP:  $\frac{3}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{3}{2}, \dots$ , the common difference is:

- (A) -1
- (B) 2
- (C) 1
- (D) 4

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2. If the radius of a sphere is 3 cm, then its volume is:

- (A)  $4\pi r^3 \text{ cm}^3$
- (B)  $\frac{4}{3}\pi r^3 \text{ cm}^3$
- (C)  $4\pi r^2 \text{ cm}^3$
- (D)  $\frac{3}{4}\pi r^3 \text{ cm}^3$

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3. The two roots of the quadratic equation  $x^2 - 4 = 0$  are:

- (A) 2, 2
  - (B) -2, 2
  - (C) -2, -2
  - (D) 2, 0
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4. In the equation  $2x - 3y = 5$ , if the value of  $y$  is 3, then the value of  $x$  is:

- (A) -7
  - (B) 14
  - (C) 7
  - (D) -14
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5. The distance of the point  $P(-6, 0)$  from the origin is:

- (A) 36
  - (B) 3
  - (C) 6
  - (D) -6
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**Section - B**

6. For what value of  $k$ ,  $x - 3y = 7$  and  $kx + 6y = 5$  will have no solution?

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7. Find the quadratic polynomial whose sum and product of zeros are 6 and -2 respectively.

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**OR** Find the value of  $p(x) = x^2 + x + 1$  when  $x = -1$ .

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**8. In the given figure, the angle of elevation of the top of a tower AC from a point B on the ground is  $60^\circ$ . If the height of the tower is 20m, find the distance of the point from the foot of the tower.**

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**9. A die is thrown once. Find the probability of getting (i) a prime number (ii) an odd number.**

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**10. If the 3rd and the 9th terms of an AP are 4 and -8 respectively, which term of this AP is zero?**

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**11. Find the area of the triangle whose vertices, taken in order are (-4, -2), (-3, -5) & (3, -2).**

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**12. The cost of fencing a circular field at the rate of Rs. 24 per meter is Rs. 5280. The field is ploughed at the rate of Rs. 0.50 per  $m^2$ . Find the cost of ploughing the field. (Take  $\pi = \frac{22}{7}$ )**

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**13. The wheels of a car are of diameter 80 cm each. How many complete revolutions does each wheel make in 10 minutes when the car is travelling at a speed of 66 km per hour?**

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**14. Prove that the lengths of tangents drawn from an external point to a circle are equal and they subtend equal angles at the center.**

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**15. Prove that the angle between the two tangents drawn from an external point to a circle is supplementary to the angle subtended by the line-segment joining the points of contact at the center.**

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**16. Evaluate**  $-5 \cos^2 60^\circ + 4 \sec^2 30^\circ - \tan 45^\circ$

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**17. If**  $\cot \theta = \frac{7}{8}$ , **then evaluate**

$$\frac{(1 + \sin \theta)(1 - \sin \theta)}{(1 + \cos \theta)(1 - \cos \theta)}$$

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**18. Two coins are tossed simultaneously. What is the probability of getting (i) at least one head (ii) no head?**

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**19. Find the L.C.M of 17, 23, and 29.**

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**20. If**  $\tan A = \cot B$ , **prove that**  $A + B = 90^\circ$ .

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