

UK Board Class 10, 2026 Mathematics Question Paper

Time Allowed :3 Hours

Maximum Marks :80

Total questions :23

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(A). If the product of two numbers is 2880 and their H.C.F. is 12, then the value of their L.C.M. is:

- (A) 200
- (B) 240
- (C) 300
- (D) 360

(B). If the product of two numbers is 2880 and their H.C.F. is 12, then the value of their L.C.M. is:

- (A) 200
- (B) 240

(C) 300

(D) 360

(C). A polynomial of degree three has:

(A) Only one zero

(B) Exactly three zeroes

(C) Almost three zeroes

(D) More than three zeroes

(D). 10th term of A.P. 4, 9, 14, ... is:

(i) 49

(ii) 54

(iii) 59

(iv) 64

(E). The distance of the point $P(-6, 8)$ from the origin is:

(A) 8

(B) 6

(C) 2

(D) 10

(F). In $\triangle ABC$, $DE \parallel BC$ such that $\frac{AD}{DB} = \frac{3}{5}$; if $AC = 5.6$ cm, then AE is equal to:

(A) 4.2 cm

(B) 3.2 cm

(C) 2.8 cm

(D) 2.1 cm

(G). Which of the following pairs of lines in a circle cannot be parallel:

- (A) Two diameters of a circle
 - (B) Two chords of a circle
 - (C) A chord and a tangent of a circle
 - (D) Two tangents of a circle
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(H). Area of a sector of a circle of radius 21 cm and the central angle 60° is:

- (A) 211 cm^2
 - (B) 221 cm^2
 - (C) 231 cm^2
 - (D) 241 cm^2
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(I). The probability of a sure event is:

- (A) 0
 - (B) 1
 - (C) $\frac{1}{2}$
 - (D) $\frac{1}{6}$
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2(A). Assertion (A): The number 4^n cannot end with the digit 0, where n is a natural number.

Reason (R): A number ends with 0 if its prime factorization contains both 2 and 5.

- (A) Both A and R are correct and R is the correct explanation of A.
 - (B) Both A and R are correct but R is not the correct explanation of A.
 - (C) A is correct but R is incorrect.
 - (D) Both A and R are incorrect.
-

(B). Assertion (A): The tangent to a circle is a special case of the secant, when the two end points of its corresponding chord coincide.

Reason (R): A tangent to a circle is a line that intersects the circle at only one point.

- (A) Both A and R are correct and R is the correct explanation of A.
 - (B) Both A and R are correct but R is not the correct explanation of A.
 - (C) A is correct but R is incorrect.
 - (D) Both A and R are incorrect.
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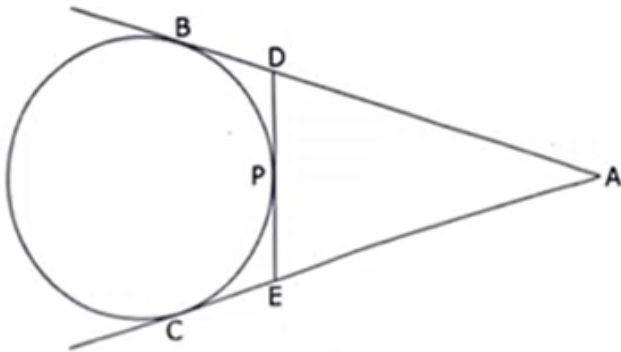
Section - B

3. If the zeroes of a quadratic polynomial $3x^2 - kx + 12$ are equal, then find the value of k .

4. Find the volume of a hemisphere with radius 7 cm.

5. If the mid point of a line segment joining the points $(h, 3)$ and $(6, 5)$ is $(4, 4)$, then find the value of h .

6. In figure $AB = 8$ cm and $PE = 3$ cm, then find AE .



7. Form a quadratic equation, one of whose zero is $2 + \sqrt{5}$ and the sum of zeros is 4.

8. The A.P. $8, 10, 12, \dots$ has 60 terms. Find the sum of the last 20 terms.

9. Find the area of a circle with maximum area that can be inscribed in a square of side 7 cm.

10. If $\sin A + \cos A = \sqrt{2}$, find the value of $\sin A \cos A$.

11. The table given below shows the daily expenditure on food of 25 households in a locality:

Daily expenditure (in)	Number of households
100-150	4
150-200	6
200-250	12
250-300	3

12. Two coins are tossed simultaneously, what is the probability of getting at least one head?

13. Find the value of K for which the given system of equations has infinitely many solutions:

$$Kx + 3y = K - 3 \quad (1)$$

$$12x + Ky = K \quad (2)$$

14. What do you understand by irrational number? Prove that $5 - 3\sqrt{2}$ is an irrational number.

15. Show graphically that the linear equations $x - y = 8$, $3x - 3y = 16$ are inconsistent, i.e. it has no solution.

OR,

15. A pole has to be erected at a point on the boundary of a circular park of diameter 13 metres in such a way that the differences of its distances from two diametrically opposite fixed gates A and B on the boundary is 7 metres. Is it possible to do so? If yes, at what distances from the two gates should the pole be erected?

16. Find a point on the Y-axis which is equidistant from the points $A(6, 5)$ and $B(-4, 3)$.

17. Find the coordinates of the points that trisect the line segment AB joining the points $A(-1, 2)$ and $B(2, 8)$.

18 (A). A drone is flying at a height of 100 m above the ground. It observes on its right two stationary cars on a highway at angles of depression 45° and 30° . On the basis of above information, answer the following questions:

Find the distance of each car from the point on the highway just below the drone.

18 (B). A drone is flying at a height of 100 m above the ground. It observes on its right two stationary cars on a highway at angles of depression 45° and 30° . On the basis of above information, answer the following questions:

Find the distance between the two cars.

18 (C). A drone is flying at a height of 100 m above the ground. It observes on its right two stationary cars on a highway at angles of depression 45° and 30° . On the basis of above information, answer the following questions:

If the drone rises to 150 m, find the tangent of the angle of depression of each car at the new height.

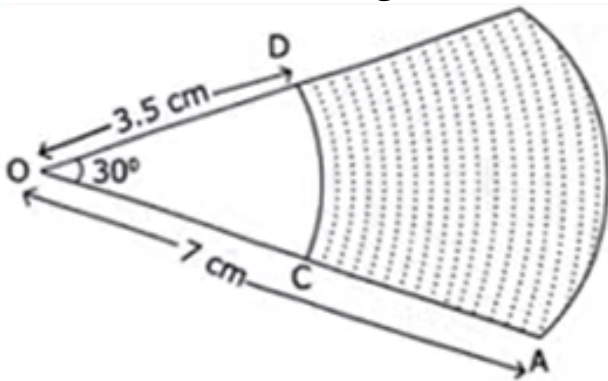
19. Two years ago, father was thrice as old as his daughter, and 6 years later he will be 4 years older than twice her age. How old are they now?

20. Prove that the parallelogram circumscribing a circle is a rhombus.

21. Prove the identity $\sec^2 \theta = 1 + \tan^2 \theta$ for any right-angled triangle and use it to show that:

$$\frac{\sin \theta - \cos \theta + 1}{\sin \theta + \cos \theta - 1} = \frac{1}{\sec \theta - \tan \theta}.$$

22. In figure, there are shown sectors of radii 7 cm and 3.5 cm. Find the area and perimeter of the shaded region ABCD.



OR,

22. A cylindrical block of radius 5 cm and height 9 cm is hollowed out from one end by removing a cone of radius 5 cm and slant height 10 cm. Find the total surface area and volume of the remaining solid.

23. Find the modal class and mode of the following data:

Class	Frequency
0 – 20	3
20 – 40	10
40 – 60	18
60 – 80	14
80 – 100	5

