First Hope

GET SOLUTIONS

Click here to visit our website

CLASS 10 MATHEMATICS STANDARD - PRACTICE QUESTIONS

For solutions, download the FirstHope app now.

Scan or click here

Click here to get solutions >

Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram >

Scan or click here

@FirstHope_CBSE_Notes

Instagram

@firsthope.school

Click here to follow >

YouTube channel

@firsthope.school

Click here to watch >

FirstHope website

firsthope.co.in

Click here to visit our website >

CBSE / Class 10 / Mathematics Standard

For solutions, download the FirstHope app now.

CLASS 10

Mathematics Standard

Sample Paper 1 - Questions

38 questions | 80 marks | 2026-27

Time: 3 hours. Answer all questions and subparts unless a choice is stated. Marks are shown on the right. Write answers on separate sheets. Independently prepared practice paper.

Section A - Objective questions

1. An AP has first term 20 and common difference 2. Calculate its 26th term. **1**
(A) 70 (B) 72 (C) 71 (D) 69

2. Calculate the distance between A(18, 20) and B(75, 96). **1**
(A) 94 (B) 96 (C) 95 (D) 97

3. Solve x + y = 41 and 2x - y = 19. State the value of x. **1**
(A) 20 (B) 22 (C) 21 (D) 19

4. Factorise x^2 + 22x + 40. State the positive integer c such that (x + 20)(x + c) is the factorisation. **1**
(A) 1 (B) 2 (C) 3 (D) 4

5. A cylinder has radius 7 cm and height 21 cm. Calculate its volume using pi = 22/7. **1**
(A) 3234 (B) 3233 (C) 3236 (D) 3235

6. Calculate the mean of 19, 21, 23, 25, 27. **1**
(A) 24 (B) 23 (C) 22 (D) 25

7. A fair die is rolled. Calculate the probability that its result is at most 4. **1**
(A) 2/3 (B) 8/3 (C) -1/3 (D) 5/3

8. Calculate the HCF of 228 and 342. **1**
(A) 115 (B) 114 (C) 113 (D) 116

9. Calculate the smaller root of $x^2 - 41x + 418 = 0$. 1
(A) 19 (B) 18 (C) 20 (D) 21

10. Two similar triangles have corresponding-side ratio 2:21. If the smaller area is 20 square centimetres, find the larger area. 1
(A) 2205 (B) 2207 (C) 2204 (D) 2206

11. For an acute angle theta, tan theta = 57/76. Calculate sin theta. 1
(A) 3/5 (B) -2/5 (C) 13/5 (D) 8/5

12. Tangents PA and PB are drawn from P to a circle. PA = 61 cm. Calculate PB. 1
(A) 62 (B) 63 (C) 61 (D) 60

13. A sector has central angle 90 degrees and radius 38 cm. Calculate its area as a coefficient of pi. 1
(A) 360 (B) 362 (C) 361 (D) 363

14. Calculate the sum of the first 26 terms of the AP beginning 20, 22, 24. 1
(A) 1170 (B) 1169 (C) 1171 (D) 1172

15. Calculate the distance between A(19, 21) and B(79, 101). 1
(A) 102 (B) 99 (C) 100 (D) 101

16. Solve x + y = 43 and 2x - y = 20. State the value of x. 1
(A) 23 (B) 21 (C) 22 (D) 20

17. Factorise $x^2 + 24x + 63$. State the positive integer c such that (x + 21)(x + c) is the factorisation. 1
(A) 3 (B) 5 (C) 4 (D) 2

18. A cylinder has radius 7 cm and height 22 cm. Calculate its volume using pi = 22/7. 1
(A) 3388 (B) 3387 (C) 3389 (D) 3390

19. Calculate the mean of 20, 22, 24, 26, 28. 1
(A) 26 (B) 23 (C) 24 (D) 25

20. A fair die is rolled. Calculate the probability that its result is at most 5. 1
(A) 11/6 (B) -1/6 (C) 5/6 (D) 17/6

Section B - Short responses

21. Calculate the HCF of 240 and 360. **2**

22. Calculate the smaller root of $x^2 - 43x + 460 = 0$. **2**

23. Two similar triangles have corresponding-side ratio 2:22. If the smaller area is 20 square centimetres, find the larger area. **2**

24. For an acute angle theta, tan theta = 60/80. Calculate sin theta. **2**

25. Tangents PA and PB are drawn from P to a circle. PA = 64 cm. Calculate PB. **2**

Section C - Short responses

26. A sector has central angle 90 degrees and radius 40 cm. Calculate its area as a coefficient of pi. **3**

27. An AP has first term 21 and common difference 3. Calculate its 27th term. **3**

28. Calculate the distance between A(20, 22) and B(83, 106). **3**

29. Solve x + y = 45 and 2x - y = 21. State the value of x. **3**

30. Factorise $x^2 + 26x + 88$. State the positive integer c such that (x + 22)(x + c) is the factorisation. **3**

31. A cylinder has radius 7 cm and height 23 cm. Calculate its volume using pi = 22/7. **3**

Section D - Extended responses

32. A theatre sells adult tickets at Rs 120 and student tickets at Rs 80. Twenty tickets bring in Rs 1,920. Form two linear equations and find the number of each kind. **5**

33. From a point 10 m from the foot of a vertical tower on level ground, the elevation angle of its top is 60 degrees. Calculate the tower height. How far farther from the tower must the observer move along the same line for the elevation angle to become 30 degrees? Neglect observer height. **5**

34. Values 10, 20 and 30 have frequencies 2, 3 and 5 respectively. Calculate the mean, median and mode, explaining how the median is located. **5**

35. A(0,0), B(6,0), C(6,4) and D(0,4) are vertices of a rectangle. Calculate its perimeter, area, length of AC and midpoint of AC. Show the coordinate calculations. **5**

Section E - Case and application questions

36. A rectangular garden has width x m and length (x+3) m. Its area is 54 m^2.

(a) Write its quadratic equation. **1**

(b) Factorise the equation. **1**

(c) Find the valid dimensions and perimeter. **2**

37. Tangents PA and PB touch a circle at A and B. PA=2x+1 cm, PB=3x-4 cm and OA=8 cm.

(a) State the relation between PA and PB. **1**

(b) Find x. **1**

(c) Find OP, giving the radius-tangent angle used. **2**

38. Two fair coins are tossed independently.

(a) State the number of equally likely outcomes. **1**

(b) Find the probability of two heads. **1**

(c) Find the probability of at least one head, listing favourable outcomes or using a complement. **2**

First Hope

First Hope

GET SOLUTIONS

Click here to visit our website

CLASS 10 MATHEMATICS STANDARD - PRACTICE QUESTIONS

For solutions, download the FirstHope app now.

Scan or click here

Click here to get solutions >

Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram >

Scan or click here

@FirstHope_CBSE_Notes

Instagram

@firsthope.school

Click here to follow >

YouTube channel

@firsthope.school

Click here to watch >

FirstHope website

firsthope.co.in

Click here to visit our website >

CBSE / Class 10 / Mathematics Standard

For solutions, download the FirstHope app now.