

CBSE Class 10 Mathematics/ Sample Question Paper/Term 2

Model Question Paper 2022

Time: 2 hours

Max Mark: 40

Section A consists of 6 questions. Each question carries 2 marks.

Section B consists of 4 questions. Each question carries 3 marks.

Section C consists of 4 questions. Each question carries 4 marks.

SECTION - A (2 Marks)

Answer the following:

1. Find $a_{10} - a_7$ of the AP: 5, 11, 17, 23 -----
2. Find the value of k, so that the quadratic equation $kx(x - 2) + 6 = 0$ have two equal roots?
3. Two cubes each of volume 64 cm^3 are joined end to end. Find the surface area of the resulting cuboid?
4. A survey conducted on 20 households in a locality by a group of students resulted in the following frequency table for the number of family members in a household:

Family size	1 - 3	3 - 5	5 - 7	7 - 9	9 - 11
Number of families	7	8	2	2	1

Find the mode of this data?

5. If the median of the distribution given below is 28.5, find the values of x and y.

Class interval	Frequency
0 - 10	5
10 - 20	x
20 - 30	20
30 - 40	15
40 - 50	y
50 - 60	5

Total	60
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6. The diagonal of a rectangular field is 60 metres more than the shorter side. If the longer side is 30 metres more than the shorter side, find the sides of the field?

SECTION - B (3 Marks)

7. The distribution below gives the weights of 30 students of a class. Find the median weight of the students?

Weight (in kg)	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65	65 - 70	70 - 75
Number of students	2	3	8	6	6	3	2

8. Draw a pair of tangents to a circle of radius 5 cm which are inclined to each other at an angle of 60° .

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

Daily Expenditure	100 - 150	150 - 200	200 - 250	250 - 300	300 - 350
Number of households	4	5	12	2	2

Find the mean daily expenditure on food by a suitable method.

10. A 1.5m tall boy is standing at some distance from a 30m tall building. The angle of elevation from his eyes to the top of the building increases from 30° to 60° as he walks towards the building. Find the distance he walked towards the building?

SECTION – C (4 Marks)

11. A metallic sphere of radius 4.2 cm is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of the cylinder?

12. PQ is a chord of length 8 cm of a circle of radius 5 cm. The tangents at P and Q intersect at a point T. Find the length TP?

13. A 1.2 m tall girl spots a balloon moving with the wind in a horizontal line at a height of 88.2 m from the ground. The angle of elevation of the balloon from the eyes of the girl at any instant is 60° . After some time the angle of elevation reduces to 30° . Find the distance travelled by the balloon during the interval?

14. 200 logs are stacked in the following manner:

20 logs in the bottom row, 19 in the next row, 18 in the row next to it and so on. In how many rows are the 200 logs placed and how many logs are in the top row?
