

BHARATH COACHING CENTRE

9th CBSE

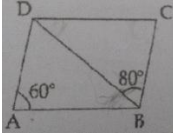
Maths

Total: 90

Time: 3hrs

Section A

1.

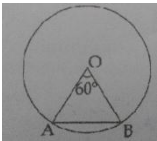


In parallelogram ABCD of the given figure, $\angle DAB = 60^\circ$ and $\angle DBC = 80^\circ$. Find $\angle ABD$.

2. Find the capacity of a tank of dimensions 8cm X 6cm X 2.5cm.
3. If the mean of five observations $x, x+2, x+4, x+6, x+8$ is 11 find x .
4. Find the median of first 8 natural numbers.

Section B

5. In the given figure, AB is a chord of a circle with centre O. If $\angle AOB = 60^\circ$, prove that $AB = \frac{1}{2}$ diameter.



6. Using compass and ruler construct the angle of the measurement 120° . Name the angle.
7. Perimeter of a $\triangle ABC$ is 72cm. Find the perimeter of the triangle DEF with vertices D, E, and F as the mid-points of the sides of the given triangle.
8. If the circumference of the base of a solid right circular cone is 236cm and its slant height is 12cm. Find its curved surface area.
9. 1500 families with 2 children were surveyed and the following data were recorded:

Number of girls in a family	0	1	2
Number of families	211	814	475

If a family is chosen at random, compute the probability that it has:

- i) Exactly 1 girl
- ii) No girl

10. The marks obtained by the students of class IX in Maths are given in the following table:

Marks	0	2	4	6	8	Total
	-	0-	0-	0-	-	
	2	4	6	8	10	
	0	0	0	0	0	
No. of students	8	1	2	3	10	80
		2	0	0		

If a student is chosen at random, find the probability that he has obtained:

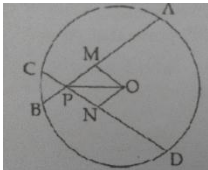
- a) less than 40 marks.
- b) 60 or more marks.

Section C

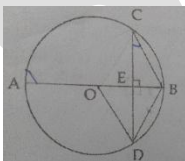
11. There are 100 students in a class. The mean height of the class is 150cm. If the mean height of 60 boys is 170cm., find the mean height of the girls in the class.
12. Draw a histogram of the weekly pocket expenses of 125 student of a school given below:

Weekly pocket expenses(in Rs.)	Number of students
0-10	10
10-20	20
20-30	10
30-40	15
40-70	30
80-100	40

13. ABCD is a parallelogram and O is the point of intersection of its diagonals. If $\text{ar}(\Delta AOD)=4\text{cm}^2$, find area (ABCD).
14. In the given figure, O is the centre of the circle, chords AB and CD intersect each other at P and PO bisects $\angle APD$. If $AB=8\text{cm}$, OM AB and ON CD, find the length of ND.



15. Construct a triangle whose angles are in the ratio 1: 3: 5 and length of side included by first two angles is 6cm.
16. In a parallelogram PQRS, $\angle P= (2x+45)^\circ$ and $\angle Q= (3x-15)^\circ$. Find the value of x. Also, find all the angles of the parallelogram PQRS.
17. In the given figure, if O is the centre of the circle, $BD=OD$ and $CD \perp AB$, find $\angle CAB$ and $\angle BCD$.



18. The diameter of a roller is 84cm and its length is 120cm. The roller takes 150 complete revolutions to move once over the playground to level it. Find the area of the playground in square metres.

Section D

19. The mean of the following distribution is 50.

- C) Only the toy pavilion
Both toy pavilion and defence pavilion

Section E

29. Taking the height as 200cm, form a linear equation in two variables taking BMI as x and weight as y kg. Draw its graph also.
30. A person wants to burn 300 cal in a day. Which two physical activities can he choose and for how much time? Write a linear equation for the same and give two values.
31. A person takes 2000 calories in a party, he eats ' x ' pastries and ' y ' samosa. Write a linear equation for the same and draw the graph.