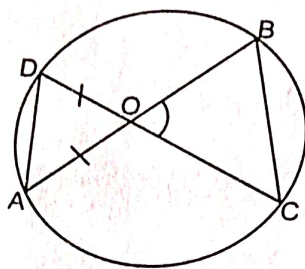


9. Consider the frequency distribution of 45 observations.

Class	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
Frequency	5	9	15	10	6

The upper limit of median class is

- (a) 20 (b) 10 (c) 30 (d) 40
10. O is the point of intersection of two chords AB and CD of a circle.



If  $\angle BOC = 80^\circ$  and  $OA = OD$  then  $\triangle ODA$  and  $\triangle OBC$  are

- (a) equilateral and similar (b) isosceles and similar  
(c) isosceles but not similar (d) not similar

11. The roots of the quadratic equation  $x^2 + x - 1 = 0$  are

- (a) irrational and distinct (b) not real  
(c) rational and distinct (d) real and equal

12. If  $\theta = 30^\circ$  then the value of  $3 \tan \theta$  is

- (a) 1 (b)  $\frac{1}{\sqrt{3}}$  (c)  $\frac{3}{\sqrt{3}}$  (d) not defined

13. The volume of a solid hemisphere is  $\frac{396}{7} \text{ cm}^3$ . The total surface area of the solid hemisphere (in sq. cm) is

- (a)  $\frac{396}{7}$  (b)  $\frac{594}{7}$  (c)  $\frac{549}{7}$  (d)  $\frac{604}{7}$

14. In a bag containing 24 balls, 4 are blue, 11 are green and the rest are white. One ball is drawn at random. The probability that drawn ball is white in colour is

- (a)  $\frac{1}{6}$  (b)  $\frac{3}{8}$  (c)  $\frac{11}{24}$  (d)  $\frac{5}{8}$

34. A boy whose eye level is 1.35 m from the ground, spots a balloon moving with the wind in a horizontal line at some height from the ground. The angle of elevation of the balloon from the eyes of the boy at an instant is  $60^\circ$ . After 12 seconds, the angle of elevation reduces to  $30^\circ$ . If the speed of the wind is 3m/s then find the height of the balloon from the ground. (Use  $\sqrt{3} = 1.73$ )

35. Find the mean and median of the following data:

Class	85-90	90-95	95-100	100-105	105-110	110-115
Frequency	15	22	20	18	20	25

OR

The monthly expenditure on milk in 200 families of a Housing Society is given below.

Monthly Expenditure (in ₹)	1000- 1500	1500- 2000	2000- 2500	2500- 3000	3000- 3500	3500- 4000	4000- 4500	4500- 5000
Number of families	24	40	33	x	30	22	16	7

Find the value of  $x$  and also find the mean expenditure.