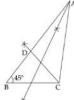
# CBSEASSISTANCE.COM

## SAMPLE PAPER 2 CLASS 9

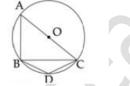
#### **SECTION – A**

## Question numbers 1 to 8 carry one mark each. For each question, four alternative choices have been provided of which only one is correct. You have to select the correct choice.

- 1. The graph of the equation x + a = 0 is a line parallel to y-axis and to the left of the y-axis if:
- a. a < 0 b. a = 0 c. a > 0 d. for any real value of a
- 2. If x = 2, y = 3 is a solution of  $4x 3y + \sqrt{k} = 0$ , then the value of k is:
- a. -1 b. 2 c. 1 d.  $\sqrt{2}$
- 3. For the construction of a triangle ABC in which AB AC = 3 cm, then BC



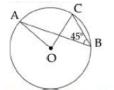
a. 7.5 cm b. 5.7 cm c. 7.3 cm d. 3.7 cm 4. In the given figure, if BD = DC and  $\angle DBC=25^{\circ}$ , then  $\angle ACB$  is equal to:



- a.  $80^{\circ}$  b.  $40^{\circ}$  c.  $100^{\circ}$  d.  $50^{\circ}$
- 5. Total surface area of a cylinder whose radius is equal to height is:
- a.  $2\pi r^2$  b.  $3\pi r^2$  c.  $4\pi r^2$  d.  $6\pi r^2$
- 6. Three cubes are joined end to end forming a cuboid. If each side of the cube is 2 cm then the volume of cuboid is:
- a.  $8 \text{ cm}^3$  b.  $6 \text{ cm}^3$  c.  $24 \text{ cm}^3$  d.  $32 \text{ cm}^3$
- 7. The class marks of frequency distribution are 10, 20, 30, 40, ...... The class representing the class mark 30 is
- a. 20-40 b. 30-40 c. 25-30 d. 25-35
- 8. 144, 145, 147, 148, 149, 151, 152, 154, 155, 160Median of the given data is:
- a. 149 b. 150 c. 151 d. 152

#### SECTION – B Question numbers 9 to 14 carry 2 marks each.

9. In the figure, if O is the centre of the circle and  $\angle ABC=45^{\circ}$ , then prove that  $OA \perp OC$ .



- 10. Two opposite angles of a parallelogram are  $(3x 2)^0$  and  $(50 x)^0$ . Find the measure of each angle of the parallelogram.
- 11. Find the curved surface area of a hemisphere of diameter 7 cm.
- 12. Find the median of the following data: 95, 65, 75, 70, 75, 100, 50, 40
- 13. Find the mean of the data:

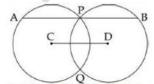
x	20	25	32	40	50	100
f	5	4	10	2	• 1	3

- 14. A survey of 500 families was conducted to know their opinion about a particular detergent powder. If 375 families liked the detergent powder and the remaining families disliked it, find the probability that a family chosen at random
- a. Likes the detergent powder
- b. Does not like it.

#### **SECTION – C**

#### Question numbers 15 to 24 carry three marks each.

- 15. If the points (-1, a), (b, 15) and (c, -20) lie on the graph of linear equation 5x y = 0. Find the value of *a*, *b* and *c*.
- 16. Find any two linear equations passing through the point  $(-1, -\frac{1}{2})$ . How many such equations are possible?
- 17. In a  $\triangle ABC$ ,  $\angle B$  is a right angle. D and E are the mid points of the sides AB and AC respectively. If AB = 6 cm and AC = 10 cm, then find the length of DE.
- 18. In figure circles with centres C and D intersect at points P and Q. If AB  $\parallel$  CD, then prove that AB = 2 CD.



- 19. In the given figure ABCD is a parallelogram. P, Q are mid points of AB and DC. Show that
- a. APCQ is a parallelogram.
- b. DPBQ is a parallelogram.

c. PSQR is a parallelogram.



- 20. Construct a  $\triangle ABC$  in which base AB = 5 cm, AC BC = 2.5 cm and  $\angle B = 45^{\circ}$ .
- 21. The base radii of two right circular cones of the same height are in the ratio 3:5. Find the ratio of their volumes.
- 22. Curved surface area of cylinder is 4400 cm<sup>2</sup> and circumference of its base is 110 cm. Find the height and volume of the cylinder.
- 23. The mean marks of a class of 40 students are 50. If the mean marks of first 20 students is 56 and the last 20 is 48, find the marks of the 20<sup>th</sup> student.
- 24. Given below are the seats won by different political parties in the polling outcome of a state assembly election.

Political Party	А	В	С	D	Е
Seats won	75	55	37	29	10

Represent the data in the form of a bar graph.

## SECTION – D Question numbers 25 to 34 carry four marks each.

- 25. The auto fare in a city is charged as per the rates stated below: Rate for the first km of journey is Rs. 8 and for the subsequent distance it is Rs. 5 per km. Taking the distance covered as x km and total fare as Rs. y, write a linear equation for the above and draw its graph.
- 26. A book lending library, lends books on the following charges. For the first two days rent is Rs. 20, and for every subsequent day, Rs. 5 is charged. Taking x as number of days and y as rent paid, write a linear equation for this information and draw its graph.
- 27. If two equal chords of a circle intersect within the circle, prove that the segments of one chord are equal to corresponding segments of the other chord.
- 28. In triangle ABC, D is a point on BC such that it divides BC in the ratio 3:5 i.e. BD:DC = 3:5. Find ar(ADC):ar(ABC).
- 29. Construct a parallelogram whose adjacent sides are 3 cm and 4 cm and one base angle is  $105^{\circ}$ .
- 30. AC and BD are two chords of a circle which bisect each other. Prove that
- a. AC and BD are diameters.
- b. ABCD is a rectangle.
- 31. A farmer has a plot of land in the shape of an equilateral triangle of side 300 m. He decides to give a part of his land which also is in the shape of an equilateral triangle of

side 100 m to his friend who is poor. But his friend refuses. So he takes a small amount as rent for the land but lets his friend take the produce. Answer the following questions:

- a. How could this be done? Explain with figure. Calculate the area of equilateral field with side 300 m.
- b. What part of the field has the farmer given to his friend in respect of area?
- c. Why did the friend refused but agreed afterwards?
- 32. A cuboid has total surface area of 40 m<sup>2</sup> and lateral surface area 26 m<sup>2</sup>. Find the area of its base. Also find its volume if its height is 7 cm.
- 33. Find the mass of 300 steel spherical ball bearings each of which has radius 0.7 cm gives the density of steel is 8 g/cm<sup>3</sup>.
- 34. The following table gives the performance of 90 students in a mathematics test of 100 marks.

Marks	Number of
	students
0-20	07
20 - 30	10
30 - 40	10
40 - 50	20
50 - 60	20
60 - 70	15
70 – above	08
Total	90