

Sample paper -1

I. Solve any four of the following problems **4 x 1 = 4m**

1. Find the zero of the polynomial $2x+4$?
2. Three angles of a quadrilateral are 75, 90 and 75. Find fourth angle
3. Find the angle in the figure

$\angle AOB ?$



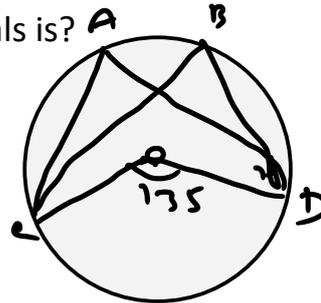
4. Surya and Samhita are studying in the same class. What is the probability of that both will have: (i) different birthdays? (ii) same birthdays?
5. Draw the angle of $22\frac{1}{2}$

II. Solve any four of the following problems **4 x 2 = 8m**

6. The TSA of cube is 96cm^2 , the volume of the cube is?
7. Find i) the CSA and ii) TSA of the hemisphere of radius 21cm
8. Two coins are tossed simultaneously. Find the probability of getting at least one head.
9. A diagonal of a rectangle is inclined to one side of the rectangle at 25° . The acute angle between the diagonals is?

10. Find the angle in the figure

$\angle COD = 135^\circ$
Find $\angle A$, $\angle B$.



III. Solve any four of the following problems **4 x 3 = 12m**

11. If $x=3$ and $x=0$ are zeroes of the polynomial $2x^3 - 8x^2 + ax + b$, then find the values of a and b ?
12. Two fair coins are tossed simultaneously. Find the probability of getting: (i) at least one tail. (ii) at most 2 heads, (iii) no head.
13. D and E are the mid-points of the sides AB and AC of $\triangle ABC$ and O is any point on side BC . O is joined to A . If P and Q are the mid points of OB and OC respectively, then $DEQP$ is Called?
14. The circumference of the base of a cylindrical vessel is 132cm and its height is 25cm. How many liters of water can it hold? ($1000\text{cm}^3=1\text{l}$)
15. Draw the angles 45, 135 and 60 degrees

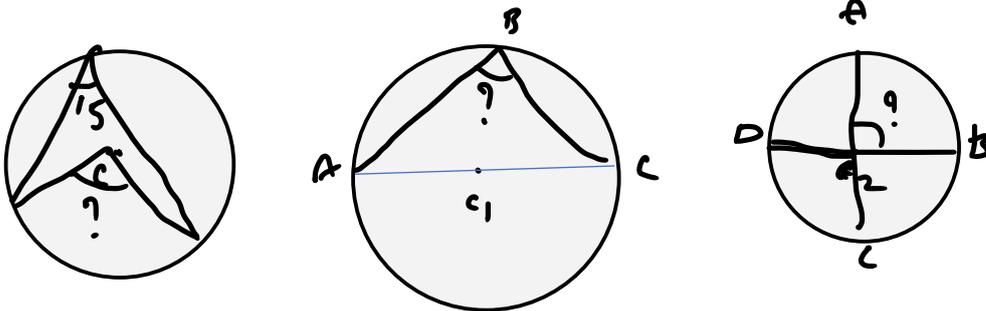
IV. Solve any four of the following problems **4 x 4 = 16m**

16. Find the product of $\left(a - \frac{1}{a}\right) \left(a + \frac{1}{a}\right) \left(a^2 + \frac{1}{a^2}\right) \left(a^4 + \frac{1}{a^4}\right)$

17. A box contains 20 balls bearing numbers 1, 2, 3, 4 ..., 20. A ball is drawn at random from the box. What is the probability of getting: (i) an odd number? (ii) a number not divisible by 10? (iii) a multiple of 4? (iv) a number divisible by 2 and 3?

18. A wall of length 10m was to be built across an open ground. The height of the wall is 4m and thickness of the wall is 24cm. If this wall is to be built up with bricks whose dimensions are 24cm X 12cm X 8cm, how many bricks would be required?

19. Find the following angles



20. Prove that the diagonals divide the parallelogram into congruence triangles