Aarambh Classes

Class IX

MATHS SAMPLE PAPER

Time : 2 hours M.Marks : 80

Section A

1. The value of =?

1. (b) 2 (c ) 4 (d) 8

2. For what value of k is the polynomial p(x) = 2-k+3x+10 exactly divisible by (x+2) ?

1. (b) (c ) 3 (d) -3

3. 207 x 193 =?

1. 39851 (b) 39951 © 39961 (d ) 38951

4. The graph of the line y =3 passes through the point

1. (3,0) (b) (3,2) (C) (2,3) (d)none of thses

5. Which of the following points does not lie in any quadrant ?

1. (3,-6) (b) (-3, 4) © (5,7 ) (d) (0,3)

6. The numbers of plane passing through 3 noncollinear points is :

(a) 4 (b) 3 (c ) 2

7. In a triangle ABC ,if A –B =42and B –C =21,then B =?

(a) 32 (b) 63 (c ) 53 (d) 95

8. The diagonals AC and BD of a parallleogram ABCD intersect each other at the point O such that DAC =30and AOB =70,then DBC = ?

(a) 40 (b) 35 ( c )45 (d) 50

9. ABC and BDE are two equilateral triangles such that D is the midpoint of BC .Then , ar (BDE ) : ar (ABC ) = ?

1. 1 :2 (B)1:4 (c ) :2 (d) 3:4

10.

In the given figure , O is the centre of the circle .If AOB =100and AOC =90then =?

1. 85 (b) 80 (C) 95 (d) 75

SECTION B(2X10=20 )

11. Insert a rational and an irrational number between 2 and 2.5 .

12. If a+b-5x+2 has( x+2) as a factor and leaves a remainder 12 when divided by (x-2) ,find the values of a and b .

13. If x =3k+2 and y =2k-1 is a solution of the equation 4x-3y+1 =0 ,find the values of k.

14. If A,B and C are three points on a line and B lies between A and C ,then show that AB+BC =AC .

15. In the given figure ,AB CD ,BAE = 65and OEC =20.Find ECO .

16. In the adjoining figure ,ABCD is asquare and EDC is an equilateral triangle .Prove that (I)AE=BE (ii) DAE =15.

17. In the adjoining figure ,DE is a chord parallel to diameter AC of the circle with centre O.If CBD =60 ,calculate CDE .

18 . A well with inside diameter 10 m is dug 8.4 m deep .Earth taken out of it is spread all around it to a width of 7.5 m to form an embankement .Find the height of the embankment .

19. A parallelogram and a rhombus are equal in area . The diagonals of the rhombus measure 120 m and 44 m. If one of the sides of the parallelogram measures 66 m ,find its corresponding altitude.

20. The mean of 25 observations is 36 .Out of these observations ,if the mean of first 13 observations is 32 and that of the last 13 observations is 40 ,find the 13 th observation .

Section C (3X10=30 )

21. A hemisphere of lead of radius 9 cm is cast into a right circular cone of height 72 cm .Find the radius of the base of the cone .

22. 1500 families with two children each were selected randomly and the following data were recorded .

|  |  |  |  |
| --- | --- | --- | --- |
| Number of girls in a family | 2 | 1 | 0 |
| Number of families | 102 | 675 | 723 |

Out of these families ,one family is selected at random .what is the probability that the selected family has (I) 2 girls (ii) 1 girl (iii) no girl

23. If x = 3 + , then find the value of + .

24. Without actual division show that -3-13x +15 is exactly divisible by (+2x –3 ).

25. Draw the graph of the equations 3x-2y =4 and x+y-3 =0 .On the same graph paper ,find the coordinates of the point where the two graph lines intersect .

26. In the given figure ,AB CD .Find the value of x .

27. In the given figure ,AM BC and AN is the bisector of A .If ABC =70and ACB =20,find MAN .

28. Show that the bisectors of the angles of a parallleogram enclose a rectangle .

29. The given figure shows a pentagon ABCDE .EG drawn parallel to DA,meets BA produced at G,and CF ,drawn parallel to DB ,meets AB produced at F .Show that

Ar (pentagon ABCDE ) =ar (DGF )

30. In the given figure ,O is the centre of the circle in which OAB= 20and OCB =55.Find (I) (ii)

Section D (4X 5 =20 )

31. Find the missing frequencies in the following frequency distribution whose mean is 50 .

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x | 10 | 30 | 50 | 70 | 90 | total |
| f | 17 |  | 32 |  | 19 | 120 |

32. A tent is in the form of a right circular cylinder ,surmounted by a cone .The diameter of the cylinder is 24 m. The height of the cylindrical portion is 11 m. ,while the vertex of the cone is 16 m above the ground..Find the area of canvas required for the tent .

33. In the adjoining figure ,AD and BE are the medians of and DFBE .Show that CF = AC.

34. Draw the graph of the line 4x+3y =24 .

(i) Write the coordinates of the points where the line intersects the x-axis and the y-axis .

(ii) Use this graph to find the area of the triangle formed by the graph line and the cordinate axes .

35. The polynomials (2x+x-ax+2 ) and (2x-3x-3x+a ) when divided by (x-2) leave the same remainder .Find the value of a .