CLASS - IX

1. (x-1) (x-2) (x-3) (x-4) = $ax^4 + bx^3 + cx^2 + dx + e$ the a - b + c - d + e = _____

1) 120 2) 60 3) -80 4) -160

2. In a right triangle sides are 3: 4: 5 and perimeter is 50. Then area is _____

1) 420 2) $\frac{625}{6}$ 3) 270 4) 100

3. If $x^2 = 1 - y^2$ *then* $(3x - 4x^3)^2 + (4y^3 - 3y)^2 =$ ____

1) 4 2) 3 3) 2 4) 1

4. Number of triangles with integer sides and whose two sides are 6 and 4 is

1) 7 2) 6 3) 1 4) Infinite

5. A rhombus has diagonals in ratio 1: 2 and its permieter is $60\sqrt{5}$. Then its area is

1) 600 2) 900 3) 450 4) 300

6. An equilateral triangle has its side satisfying $x^2 + x - 12 = 0$. Its area is

1) $\sqrt{48}$ 2) $\sqrt{32}$ 3) $\frac{3\sqrt{3}}{4}$ 4) $\frac{9\sqrt{3}}{4}$

7. A square of side 4cm can be inscribed in a circle of area _____

1) 3π 2) 4π 3) 8π 4) 6π

8. $x + y\sqrt{2} + z\sqrt{3} = 0$; x, y, z $\in$ Integers. Then 2x- y +2016z =

1) 0 2) 2013 3) 2017 4) Any integer

9. Four lines in a plane may intrersect in almost

1) 6 points 2) 1 points 3) 4 points
4) Infinite number of points

10. A square is of side 10cm. 4 equal squares of diagnoal $\sqrt{2}$ each are cutout from each corner. Remaining edges are folded to make a solid of square base. Its voulme is....cm^3

1) 32 2) 84 3) 64 4) 240

11. Mean of 5, 27,x, 40, 25, 13 is $\frac{x}{2}$. then mean of x and 45 divides

1) 100 2) 80 3) 110 4) 68

12. Number of positive integer pairs (x,y) satisfying 3x+4y=12 is

1) 1 2) 0 3) 2 4) Infinite

13. $x^2 + y^2 - 2x - 2y + 2 = 0 \Rightarrow 2x - 3y =$ _____

1) -1 2) +1 3) +2 4) -3

14. $x = 2 + \sqrt{3}, y - \frac{1}{x} = 0$ *then* $x^2 + y^2 =$ _____

1) 12 2) 8 3)14 4) $4+2\sqrt{3}$

15. The mathematician who first calculated the value of π to first 4 decimal places

1) Gauss 2) Aryabhata 3) Bhaskara 4) Renedescarte

16. 14th March of every year is mathematically important because it is

1) π day 2) Eulerday
3) Newtonday 4) Mathematicsday

17. Which year is declared as national mathematical year by the Indian Government

1) 2011 2) 2012 3) 2000 4) 2010

18. Golden triangle is a triangle with

1) angles $60^0, 30^0, 90^0$ 2) angles $45^0, 45^0, 90^0$

3) angles $72^0, 72^0, 36^0$ 4) sides 1, 2, $\sqrt{3}$

19.An Englishman who created a puzzle 'cutting an equilateral triangle into 4 parts , when rearranged took the shape of the square

1) David Hilbert 2) Henry Earnest Dudency
3) Hamilton 4) Pascal

20. The series formed by missing letters in the series - b c - - b b - a a b c

1) a c a c 2) b a b c 3) a b a b 4) a a c c

21. In the series 52, 51, 48, 43, 34, 27, 16, one number is wrongly placed. Find it

1) 51 2) 48 3) 34 4) 43

22. What comes next in the following letter series WTPMIFB_?

1) X 2) D 3) F 4) Y

23. ENTRY is coded as 12345 and STEADY is coded as 931785, then the correct code for the word "NEATNESS"

1) 25196577 2) 21732199 3) 21362199 4) 21371299

24. If ANT = H, PIG = E, then FLY =

1) I 2) C 3) D 4) G

25. If BIG is coded as YRT and CAT is coded as XZG then FOX is

1) ULC 2) VMC 3) YAL 4) WNC

26. The figure formed by joining (-2,0) (-2,4), (2,4) and (2,0) is

1) Quadrilateral 2) Parallelogram 3) Rectangle 4) Square

27. $\sqrt{7-2\sqrt{10}} =$

1) $\sqrt{5}-\sqrt{2}$ 2) $\sqrt{2}-\sqrt{5}$ 3) $\sqrt{7}-\sqrt{10}$ 4) $\sqrt{7-\sqrt{5}}$

28. The AM of n observations is M. If the sum of (n-4) observation is a, then the mean of remaining observations is

1) $nM+a$ 2) $\frac{nM-a}{2}$ 3) $\frac{nM+a}{2}$ 4) $\frac{nM-a}{4}$

29. If $x^2-\frac{1}{x^2}=\frac{15}{4}$ then the value of $x+\frac{1}{x}=$

1) $\frac{5}{2}$ 2) $\frac{7}{2}$ 3) $\frac{\sqrt{15}}{2}$ 4) $\frac{7}{4}$

30. $2x^2+5y^2+45z^2-4xy-6yz-12zx=0$ *then* $x:y:z=$

1) 1 : 2 : 3 2) 2 : 3 : 6 3) 1 : 3 : 6 4) 6 : 3 : 1

31. The average of 7 observations is 17. If two observations 21 and 31 were misprint as 27 and 18 respectively then the correct mean is

1) 16 2) 17 3) 18 4) 19

32. $N=\frac{p}{q}$, p,q $\in$ Z q $\neq 0$ and N is a terminating decimal then the form of q is

1) only $2^m, m \in z$ 2) only $5^m, m \in z$

3) 2^m *or* 5^n or both 2^m and 5^n, $m,n \in z$

4) both 2^m and 5^n, where $m,n \in$ *Rational*

33. The number of ordered pairs (a,b) such that the zero of the polynomial ax - b = 3 is

1) Infinity 2) 3 3) 1 4) None

34. Let $p(x)=x^{2m/3}+x^2+x^3+x^8+x^{10}+x^{12}$ is a polynomial of degree 12 then the possible value of M are

1) {3, 6, 9, 12, 15, 18} 2) {1, 2, 3, ...12}

3) {3, 4, 5, 6 ...18} 4) {1, 2, 3 ... 18}

35. $\frac{72m}{2016}$ is a terminating decimal then the least value of m is _____

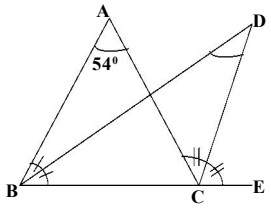
1) 5 2) 7 3) 2 4) 8

36. $(2016)^3+(2017)^3-(4033)^3$ =

1) -2016 x 6051 x 4033 2) 2016 x 6051 x 4033

3) 2016 x 2017 x 4033 4) 6048 x 2017 x 4033

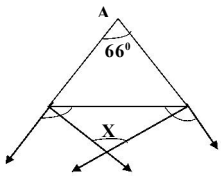
37. In the adjoining figure BD and CD are bisector of $\angle ABC$ and $\angle ACE$ respectively and $\angle BAC = 54^0$ then $\angle BDC$ =



1) 54^0 2) 27^0

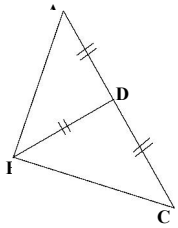
3) 36^0 4) 32^0

38. In fig. $\angle BAC = 66^0$ $\angle OBC = \frac{1}{3}\angle DBC$ and $\angle OCB = \frac{1}{3}\angle ECB$. Then $\angle BOC =$



1) 123^0 2) 98^0
3) 100^0 4) 57^0

39. In fig. AD = DC= BD then $\angle ABC =$



1) 90^0 2) 60^0
3) 80^0 4) 70^0

40. If 79A5863B is divisible by 88 then the (A,B)
1) (2, 2) 2) (2, 4) 3) (4,4) 4) (4,2)

41. XYY x 999 = XYZ123 then X + Y + Z
1) 23 2) 21 3) 27 4) 19

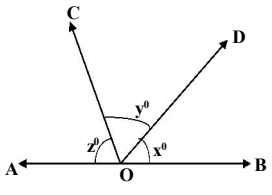
42. Altars in anciant India are some of the best application of
1) Geometry 2) Arithmetical Calculations
3) Constructions 4) Time measurements.

43. The dimension of a point is
1) 1 2) 0 3) 2 4) infinite

44.The term used by Euclid for ' a line segment'
1) Ray 2) dotted segment 3) terminated line 4) part of line

45. Euclid's fifth postulate deals with
1) paralles lines 2) Right angles
3) perpendicular lines 4) Lines passing through points

46. In this figure the angles x and y are in the ratio 3: 2 and angle z is equal to the difference of y and 4 times x, then $\angle y =$



1) 54^0 2) 36^0
3) 24^0 4) 48^0

47. In ΔABC, the internal angle bisectors of $\angle B$ and $\angle C$ are meeting at O. If $\angle A = 50^0. Then \angle BOC =$

1) 110^0 2) 130^0 3) 125^0 4) 115^0

48. If the point (-x, y) is in Q_3 then (x, -y) is in

1) Q_1 2) Q_2

3) Q_4 4) on x- axis

49. A circle has centre (1, 1) and one point on it is (4,5). Then its circumference is

1) 10π 2) 3π 3) 4π 4) 5π

50. A graph represented by the equation $ax + by + c = 0$ is passing through origin. A stright line passing through origin is of the form y = mx, then which of the following is true?

1) a - bm = 0 2) a + bm = 0 3) b + am = 0 4) b - am = 0

51. With the usual notation for measurement, if $F = 95^0$, then C =

1) 75^0 2) 65^0 3) 35^0 4) 45^0

52. ABCD is a rectangle, AC = 8cm. P,Q,R,S are respectively the mid points on the sides of rectanlge. Then the perimeter of the quadrilateral PQRS is

1) 32cm 2) 16cm 3) 24cm 4) insufficient data

53. ABCD is a parallelogram. AP and CQ are perpendicualrs drawn from vertices A and C on diagnol BD,then a) $\Delta APB \cong \Delta CQD$ b) $AP = CQ$

1) a is true 2) b is true

3) a or b only one is true 4) both (a) & (b) are true

54. The pair of lines which safisfy the point (0,2)

1) 3x + 2y = 6, y - 2x = 2 2) 2x + 3y = 6, 2x - y = 6

3) 2x + 3y = 6, 2x + y = 2 4) 2x - 3y = 6, 2x - y = 2

55. A rectangular piece of paper 33cm x 6cm is folded without overlapping to make a cylinder to meet the shorter sides together, then its volume to the nearest integer is

1) $524cm^3$ 2) $520cm^3$ 3) $480cm^3$ 4) $500cm^3$

56. The measure of central tendancy which is affected by its extreme values

1) Mean 2) Mode 3) Median 4) Range

57. A metallic sphere of radius 6cm is meleted to form a cylinder of height 24cm. Then diameter of the cylinder is

1) 8cm 2) 6cm 3) 4cm 4) $4\sqrt{3}$ cm

58. $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ and l is a transversal intesecting $\overleftrightarrow{AB}$ at P and $\overleftrightarrow{DC}$ at R. The bisectors of the interior angles form a

1) Triangle 2) Quadrilateral 3) Parallelogram 4) Rhombus

59. A distribution may not have

1) Mean 2) Median 3) Mode 4) Range

60. The average marks of boys, girls and total students of a class are respectively 50, 60 and 56. The ratio of boys and girls in the class is

1) 2 : 5 2) 2 : 3 3) 1 : 4 4) 5 : 6

50. Total number of squares in the figure

1) 9 2) 12
3) 10 4) 14