PRACTICES QUESTION PAPER - 2

CLASS-IX

MATHEMATICS

Time: 3 Hrs. **M.M. 80**

General Instruction:

1. All questions are compulsory.
2. The question paper consists of 40 questions and it is divided into four section A, B, C and D.
3. Section A comprises of 20 question carrying 1 mark each.
4. Section B comprises of 6 question carrying 2 mark each.
5. Section C comprises of 8 question carrying 3 mark each.
6. Section D comprises of 6 question carrying 4 mark each.
7. There is no overall choice in the paper. However an internal choice has been provided into 2 question of 2 marks, 4 questions of 3 marks and 3 questions of 4 marks. You have to attempt only one of the alternatives in all such questions.
8. Use of calculator is not permitted.

PART – A

1. Which of the following is the formula for the volume of the sphere ?

   a) $\frac{1}{3}\pi r^3$ b) $\frac{2}{3}\pi r^3$

   c) πr^3 d) $\frac{4}{3}\pi r^3$

2. If x=0 and y=k are the solutions of the equation 5x–3y=3, the value of K is :

   a) $\frac{3}{2}$ b) 0

   c) –1 d) $-\frac{2}{3}$

3. The class mark of the interval 100 – 120 is :

   a) 100 b) 110

   c) 120 d) 20

4. How many triangle are possible having angles 60°, 90° and 30° ?

a) only one b) None

c) Infinite d) only 3

5. Which of the following is true if $\Delta PQR \cong \Delta SET$?

a) PQ = SE b) QR = ST

c) $\angle P = \angle T$ d) PR = SE

6. Which of the following is a rational number ?

a) 0.123456.... b) $\sqrt{23}$

c) $\sqrt{36}$ d) $2\sqrt{3}$

7. The base and height of a parallelogram are 10cm and 6cm respectively. The area of parallelogram is :

a) $30cm^2$ b) $60cm^2$

c) $16cm^2$ d) $8cm^2$

8. The probability of getting a factor of 6 on throwing a dice is :

a) $\frac{2}{3}$ b) $\frac{1}{3}$

c) $\frac{1}{6}$ d) $\frac{3}{2}$

9. The angle of the semicircle is :

a) 120° b) 60°

c) 180° d) 90°

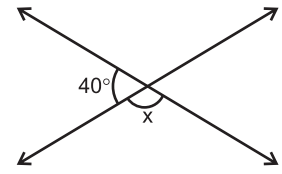
10. Which quadrant has both ordinate and abscissa negative ?

a) I b) II

c) III d) IV

11. Find the value of C if in a triangle S=13, a=8, and b=7.

12. Find the value of x from the following figure.

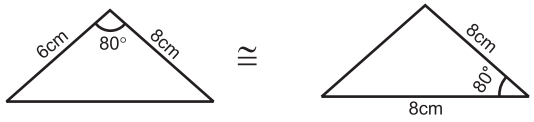


13. Find the decimal expansion of $\frac{31}{16}$.

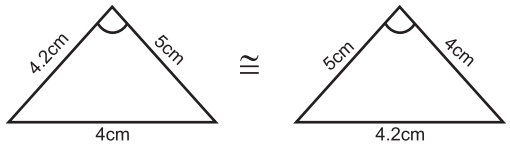
14. If (x–1) is a factor of the polynomial $2x^2 - 2a$ then find the value of a.

15. If the median of 6, 4, 7, 13 and p is 8 then find the value of p.

Match the following

16. 

17. Distance of point (4, 9) from x-axis

18. 

19. Mode of data 4, 9, 5, 4, 9, 5, 4, 5, 9, 5

20. Supplementary angle of 65°

i) 9

ii) 25°

iii) 115°

iv) SAS Congruency

v) 5

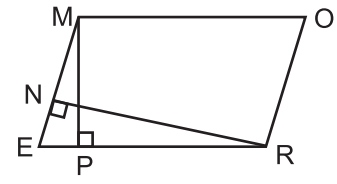
PART B

21. Find any two solutions of the equation 4x + 3y = 12.

22. If each side of triangle is doubled then find the ratio of area of new triangle thus formed and the given triangle.

or

In the figure, MORE is a parallelogram and RN⊥ME and MP⊥ER. if MO=16cm, MP=8cm and RN=10cm then find the value of ME.



23. The volume of a right circular cone is 9856cm^3. If the radius of the base is 14 cm then find the height of the cone. (Use π = 22/7)

24. Solve : $(625)^{0.06} \times (625)^{0.19}$

25. Factorize : $(p-q)^3 + (q-r)^3 + (r-p)^3$

or

If p(x) = x+5 then find the value of p(x) + p(–x)

26. The side of cube is 8cm. Find the lateral surface area of the cube.

PART – C

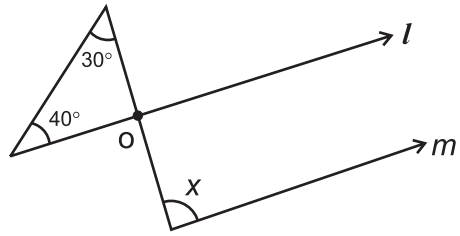
27. A dice is thrown 80 times. If the probability of having an even number is 7/10 then how many times an odd number appears on dice ?

28. The cost of four chairs and five tables is ₹ 3200. Write a linear equation in two variables for this statement and find out its two solutions.

or

Solve for x : (5x+1) (x+3) – 8 = 5(x+1) (x+2)

29. In the given figure if l ||m then find the value of x.



30. The sides of a triangle are in the ration 11:19:24 and its perimeter is 540cm. Find the area of the triangle.

or

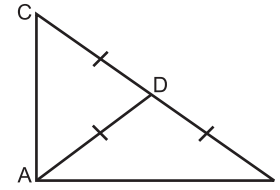
The side of a triangle shaped sheet are 5cm, 12cm and 13cm. Find the cost of painting on the sheet at the rate of ₹ 30per cm^2.

31. Divide the polynomial $9x^3–3x^2+15x–3$ by $(3x–1)$ and find its quotient and remainder.

32. Prove that the angle opposite to the equal sides of an equilateral triangle are equal.

or

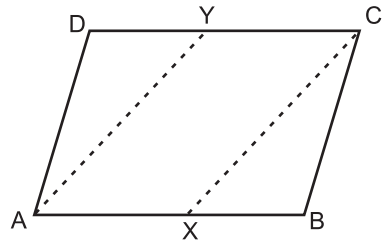
In the given figure, AD = BD = CD. Find ∠BAC.



33. In a rhombus ABCD, $\angle ABC = 72°$. Find $\angle ACD$

or

In the figure ABCD is a parallelogram x and y are mid-point of sides AB and DC. Prove that AXCY is a parallelogram.

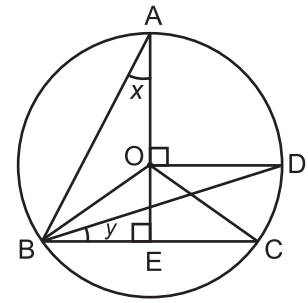


PART – D

35. Prove that the angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.

or

In the given figure, O is the centre of the circle and $\angle BCO = 30°$.
Find the value of *x* and *y*.



36. Draw the frequency polygon for the following distribution.

Marks	No. of Students
0-10	7
10-20	10
20-30	6
30-40	8
40-50	12
50-60	3
60-70	2
70-80	2

or

Find the mean, median and mode for the following distribution.

75, 62, 88, 55, 90, 95, 85, 59, 72, 78, 90, 95, 90, 95, 80, 71, 44, 57, 68, 90.

37. Construct a triangle having perimeter 6.4 cm and its basic angle are 60° and 45°.

38. The inner diameter of a cylindrical wooden pipe is 24cm and its outer diameter is 28cm - The length of this pipe is 35cm. Find the mass of the pipe if $1cm^3$ of wood has a mass of 0.6 gram.

39. Simplify : $\dfrac{(361)^3 + (139)^3}{(361)^2 - (361 \times 139) + (139)^2}$

or

Express $0.\overline{245}$ in the form $\dfrac{p}{q}$.

40. If $(x+a)$ is a factor of the polynomials (x^2+px+q) and (x^2+mx+n) then prove that

$$a = \frac{n - q}{m - p}$$

SOLUTION
PRACTICE QUESTION PAPER - 2

1. d) $\frac{4}{3}\pi r^3$
2. c) – 1
3. b) 110
4. c) Infinite
5. a) PQ = SE
6. c) $\sqrt{36}$
7. b) $60cm^2$
8. a) $\frac{2}{3}$
9. d) 90°
10. c) III
11. C = 11
12. x = 140°
13. 1.9375
14. a = 1
15. p = 10
16. iv) SAS
17. i) 9
18. vi) SSS
19. v) 5
20. iii) 115°
21. Any two solutions
22. 4 : 1 or ME=12.8cm
23. h = 48cm
24. 5
25. 3(p–q) (q–r) (r–p) or 5
26. $256cm^3$
27. 24 times
28. No. of chair = x
    No. of table = y
    4x + 5y = 3200
    Any two solution
    or
    x = 15
29. x = 70°
30. $7200\sqrt{2}\ cm^2$
    or
    Area = $30cm^2$
    Cost = ₹ 900
31. Quotient = $3x^2+5$
    Remainder = 2
32. ∠BAC = 90°
33. Non-collinear
34. ∠ACD = 54°
35. x = 30°
    y = 15°
36. Means = 76.95
    Median = 79
    Mode = 90
38. 3432gm
    3.432 kg
39. 500
    or
    $\frac{245}{999}$