

PRACTICE QUESTION PAPER-2

CLASS-IX

SUBJECT : MATHEMATICS

Time : 3 Hrs.

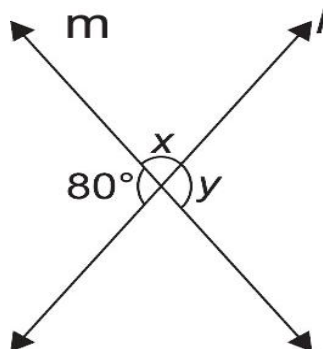
M.M. 80

General Instruction:

1. All questions are compulsory.
2. The paper consists of 30 questions divided into four section A, B, C, D. Section A comprises off 6 questions of 1 mark each. Section B compmrises of 6 questions of 2 marks each. Section C comprises of 10 questions of 3 marks each. Section D comprises of 8 questions of 4 marks each.
3. There is no over all choice in this question paper. Although internal choices has been provided in some questions.

SECTION-A

1. Write the Heron's formula used to calculate the area of a triangle whose sides are a, b, and c.
2. Find the ratio of the volumes of a cone and of a cylinder whose base diameter and heights are equal.
3. Find two irrational numbers between 786 and 787.
4. Is P (0, 7) and Q (7, 0) represent the same point?
5. How many solutions are there for equation $y = x + 2$?
6. Find x and y from the given figure.



- (i) What is the probability that on a given day it was correct.
(ii) What is the probability that it was not correct on a given day.

14. Express $1.\overline{27}$ in the form of p/q . where p and q are integers and $q \neq 0$.
15. Evaluate $(104)^3$ using suitable identity.

OR

Without Actual Calculating the cubes

Find the value of $(-12)^3 + (7)^3 + (5)^3$

16. Write the names of quadrant in which the following co-ordinate points lies, where x and y are natural numbers.
(i) $(-x, y)$ (ii) (x, y) (iii) $(-x, -y)$
17. The sum of the angles of a triangle is 180° . Prove it.

OR

Prove that angles opposite to equal sides of an isosceles triangle are equal

18. Write three solution of the equation $\pi x + y = 9$.
19. Prove that Equal chords of a circle subtend equal angles at the centre.

OR

If the non-parallel sides of a Trapezium are equal, Prove that it is cyclic.

20. Construct a triangle PQR in which $QR = 7$ cm $\angle Q = 75^\circ$ and $PQ + PR = 13$ cm.

OR

Construct a triangle with perimeter 12 cm and the ratio of their sides is 3 : 4 : 5.

21. The sides of a triangle shaped sheet are 5 cm, 12 cm and 13 cm. Find the cost of painting on the sheet at the rate of ₹ 30 per cm^2 .
22. In a mathematics test given to 15 students, the following marks are recorded.

41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60

Find mean, median and mode of the above data.

SECTION-D

23. The volume of right circular cone is 9856 cm^3 . If the diameter of base is 28 cm. Find
- (i) Slant height of the cone.
 - (ii) Height of the cone.
 - (iii) Curved surface area of the cone.

OR

A godown measures $40 \text{ m} \times 25 \text{ m} \times 15 \text{ m}$. Find the maximum number of wooden boxes each measuring $1.5 \text{ m} \times 1.25 \text{ m} \times 0.5 \text{ m}$ that can be stored in the godown.

24. Rationalise the denominator $\frac{5}{\sqrt{3} - \sqrt{5}}$
25. Show that in a Right Angle triangle, The hypotenuse is the longest side.
26. Factorise $x^3 + 6x^2 + 11x + 6$
27. Sanya has a piece of land which is in the shape of a Rhombus. She wants to divide it equally in to two parts one for her son and other for her daughter. If the perimeter of the land is 400 m and one of its diagonal is 160m.

Find How much area each of them will get?

OR

A triangular park has side 120 m, 80 m and 50 m. A Gardner Ramu has to put a fence all around it and also plant some trees inside the garden to get clean air.

- (i) Find the cost of fencing at the rate of Rs 5 per meter.
- (ii) Find the area where Ramu plant the trees.

28. Give the geometric representations of $5y + 3 = 0$
(i) In one variable (ii) In two variables.
29. In a triangle ABC, D, E and F are respectively mid points of sides AB, BC and AC. Show that $\triangle ABC$ is divided in to four congruent triangles by joining D, E and F.

OR

ABCD is a rectangle and P, Q, R and S are mid points of the sides AB, BC, CD and DA respectively. Show that the quadrilateral PQRS is a rhombus.

30. The following table gives the life times of 400 neon lamps.

Life time in hours	No of lamps
300-400	14
400-500	56
500-600	60
600-700	86
700-800	74
800-900	62
900-1000	48

- (i) Represent the given information with the help of a histogram.
(ii) How many lamps have a life time of more than 700 hrs.

SOLUTION

1. $\text{ar } \Delta = \sqrt{s(s-a)(s-b)(s-c)}$
 2. 1 : 3
 3. Any two irrational numbers between 786 and 787.
 4. No.
 5. Infinitely many solutions.
 6. $x = 100^\circ, y = 80^\circ$
 7. $\angle ABC = 115^\circ$
 8. (i) 3 (ii) -3
 9. $x = 130^\circ, y = 130^\circ$
 11. Trapezium, Parallelogram, Rectangle, Rhombus, Square etc.
 13. (i) $\frac{175}{250}$ (ii) $\frac{75}{250}$
 14. $\frac{14}{11}$
 15. 1124864 OR -1260
 16. (i) II (ii) I (iii) III
 18. Any three solutions.
 21. ₹ 900
 22. Mean = 54.8, Median = 52, Mode = 52
 23. (i) 50 cm (ii) 48 cm (iii) 2200 cm²
- OR
- 16000
24. $\frac{-5}{2}(\sqrt{3} + \sqrt{5})$
 26. $(x + 1)(x + 2)(x + 3)$
 27. 4800 Sq. m.
- OR
- (i) ₹ 1250
 - (ii) 1875 sq. m
 30. (ii) 184