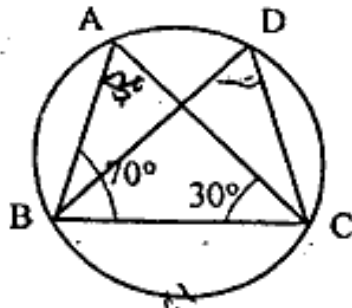


6. What is the serial in traffic lights.
7. ABC and DBC are two isosceles triangles on the same base BC. Show that $\angle ABD = \angle ACD$ 2
8. In figure $\angle ABC = 70^\circ$ and $\angle ACB = 30^\circ$ find $\angle BDC$. 2



9. The angles of a quadrilateral are in the ratio 3 : 5 : 9 : 13. Find all the angles of quadrilateral. 2
10. Find area of triangles having sides 60m, 100m and 140m. 2
11. Construct the angles of the following measurements— 2
(i) 15° (ii) 105°
12. Rationalise the denominators of $\frac{1}{\sqrt{5}-2}$ 3
13. Evaluate the following products without multiplying directly—
(i) 105×95 (ii) 96×97 4
14. Three coins were tossed 30 times simultaneously. Each time the number of heads occurring was noted down as follows— 3
0 1 2 2 1 2 3 1 3 0 1 3 1 1 2
0 1 2 1 3 0 0 1 1 2 3 2 2 2 2
Prepare a frequency distribution table for the data given above.
15. Evaluate the value of $20^{\text{cm}} \times 18^{\text{cm}}$ two rectangular boards at the rate Rs. 10/Sq. inch. 3
16. In which quadrant or on which axis do each of the points lie? 4
A (-3, 4) B (3, -2) C (1, 0) D (-3, -4)
17. Express the following linear equations in the form $ax + by + c = 0$ and indicate the value of a, b and c. 4
(i) $4 = 5x - 3y$ (ii) $x = 3y$
18. Find four different solutions of the equation— 4
 $x + 3y = 6$

Yearly Examination, 2015-16

Class - 9 IX

Subject : Mathematics

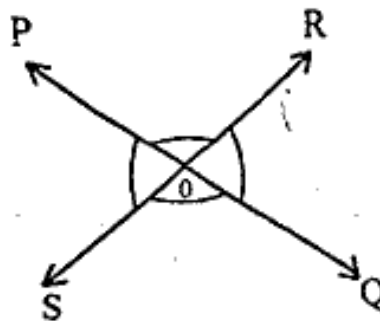
Time : 3.15 Hrs.

M.M. : 100

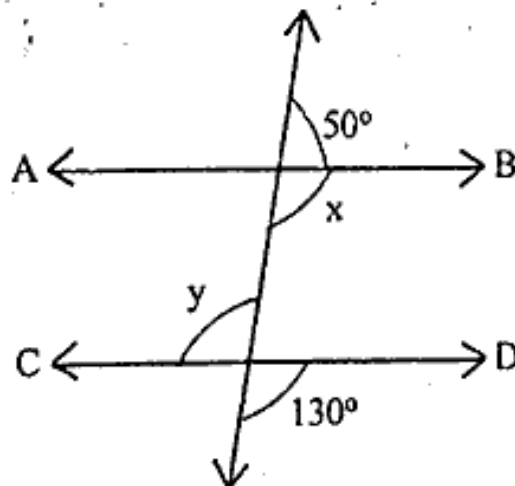
Introductions :

- (i) All questions have to attempt compulsorily.
- (ii) Maximum marks for each question given against it.
- (iii) Student must write their roll no. on question paper.
- (iv) Answers write in answer-book only.

1. Find four rational numbers between 3 and 4. 1
2. Write Euclid's first Postulate. 1
3. In figure lines PQ and RS intersect each other at point O. If $\angle POR$
: $\angle ROQ = 4 : 8$. Find all angles. 1



4. Write ASA Congruence rule of triangles. 1
5. In figure find x and y. 1



P.T.O.

Or

A dome of a building is in the form of a hemisphere from inside. It was whitewashed at the cost of Rs. 498.96. If the cost of whitewashing is Rs. 2.00 per m^2 find—

- (i) inside surface area of the dome.
- (ii) volume of the air inside the dome.

30. The ~~stand~~^{slant} height and base of a conical tomb are 25m and 14m respectively. Find the cost of white washing its curved surface at the rate of Rs. 210 per $100m^2$.

Or

A solid cube of a side 12cm. is cut into eight cubes of equal volume. What will be the side of the new cube. Also find the ratio between their surface areas.

□□□

19. The Taxi fare in a city is as follows : for the first Kilometer, the fare is Rs. 8 and for the subsequent distance it is Rs. 4 per km. Taking distance covered as x km. and the fare as Rs. y write a linear equation for this information. 4
20. Construct a triangle ABC in which $BC = 7$ cm., $\angle B = 75^\circ$ and $AB + AC = 13$ cm. 4
21. Construct a right angle triangle whose base is 12cm and the sum of its hypotenuse and other side is 18cm. 4
22. The floor of a rectangular hall has a perimeter 250m. If the cost of painting the four walls at the rate of Rs. 10 per m^2 is Rs. 15,000. Find the height of the hall. 4
23. The cylindrical Pillar is 25cm. ^{radius} and 3.5m height. Find the cost of painting the curved surface of the pillar at the rate of Rs. per m^2 . 4
24. Write formulae of the followings— 4
 (i) Total surface area of a cube
 (ii) Volume of the cylinder.
 (iii) Total surface area of a right circular cone.
 (iv) Surface area of a sphere.
25. A hemisphere bowl made of brass has inner diameter 10.5cm. Find the cost of tin plating it on the inside at the rate of Rs. 20 per $100cm^2$. 4
26. Draw the graph of the linear equation— 6
 $x + y = 7$
27. If E, F, G, H are respectively the mid points of the sides of a parallelogram ABCD, show that—
 $ar(EFGH) = \frac{1}{2} ar(ABCD)$
28. Give the geometric representation of $2x + 9 = 0$ as an equation—
 (i) in one variable (ii) in two variables
29. It costs Rs. 2200 to paint the inner curved surface of a cylindrical vessel 10m. deep. If the cost of painting is at the rate of Rs. 20 per m^2 find—
 (i) inner curved surface area of the vessel.
 (ii) radius of the base.
 (iii) capacity of the vessel.