Sample Paper -1
Class – IX
Subject – Mathematics

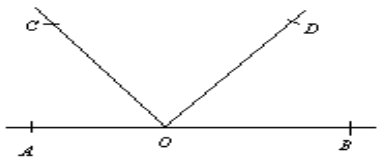
Time: 2 hrs Marks: 50

General Instructions:

1. All questions are compulsory.
2. The question paper is of 20 questions divided into four sections –A, B, C and D. Section A contains 5 questions of 1 marks each. Section B is of 4 questions of 2 marks each , section C is of 7 questions of 3 marks each and Section D is of 4 questions of 4 marks.
3. Question numbers 1 to 5 in section A are multiple choice questions where you are to select one correct option out of given four.

Section- A

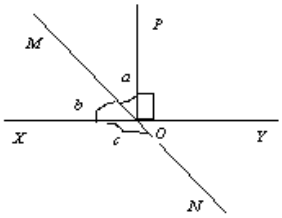
1. Decimal representation of 1/9 is (a) $0.\overline{2}$ (b) $0.0\overline{2}$ (c) $0.2\overline{1}$ (d) $0.\overline{1}$
2. In the given figure, if $\angle AOC + \angle BOD = 70^o$, then $\angle COD$ is:(a) 80^o (b) 90^o (c) 110^o (d) 120^o



3. Two sides of a triangle are 8 cm and 3 cm. Third side of the triangle cannot be : (a) 4 cm (b) 6 cm (c) 5.5 cm (d) 6.5 cm.
4. The perimeter of a triangle is 30cm.If its sides are in the ratio 1:3:2 then its smallest side is: (a) 1cm (b) 5cm (c) 10cm (d) 15cm.
5. The area of an equilateral triangle whose sides are 6cm. (a) $6\sqrt{3}cm^2$ (b) $9\sqrt{3}cm^2$ (c) $12\sqrt{3}cm^2$ (d) $15\sqrt{3}cm^2$.

Section-B

6. Find two irrational numbers between 3 and 4.
7. Simplify $\left(\frac{243}{32}\right)^{\frac{-3}{5}}$.
8. In the given figure, line XY and MN intersect at O. IF $\angle POY = 90^o$ and a : b = 4:5, find *c*.



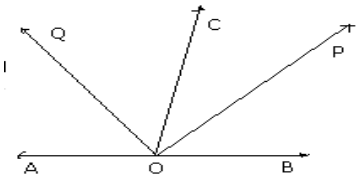
9. State five postulates of Euclid

Section-C

10. Simplify $\frac{3\sqrt{2}-2\sqrt{3}}{3\sqrt{2}+2\sqrt{3}}+\frac{\sqrt{12}}{\sqrt{3}-\sqrt{2}}$

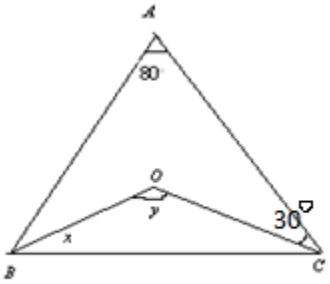
11. Represent $\sqrt{4.8}$ on the number line.

12. In the given figure, OP bisects $\angle$BOC and OQ bisects $\angle$AOC, show that $\angle$ POQ=90^0

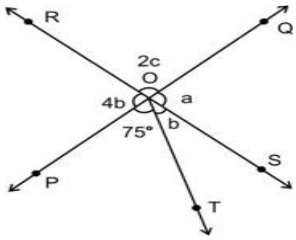


13. If two parallel lines are intersected by a transversal, show that the bisectors of any pair of alternate interior angles are parallel.

14. In the given figure, OB and OC are bisectors of $\angle B$ and $\angle C$, find *x* and y.



15. In Figure two straight lines PQ and RS intersect each other at O. If $\angle$ POT = 75^o, find the values of a,b and c.



16. The sides of a triangle are in the ration of 13 : 14 : 15 and its perimeter is 84 cm. Find the area of the triangle. Also find the altitude of the triangle corresponding to the longest side.

Section-D

17. If the Find the values of a and b $\frac{\sqrt{2}+\sqrt{3}}{3\sqrt{2}-2\sqrt{3}} = a - b\sqrt{6}$

18. If $x = \frac{1}{2-\sqrt{3}}$, find the value of $x^3 - 2x^2 - 7x + 5$

19. Find the values of a and b if $\frac{2\sqrt{6} - \sqrt{5}}{\sqrt{45} - \sqrt{24}} = a + b\sqrt{30}$.

20. Side BC of a triangle ABC is produced to a point D as shown in figure. The bisector of $\angle A$ meets BC at L. Prove that $\angle ABC + \angle ACD = 2\angle ALC$.