

KENDRIYA VIDYALAYA GACHIBOWLI, HYDERABAD
SAMPLE PAPER 09 : PERIODIC TEST – 1 (2019 – 20)
CLASS – IX
MATHEMATICS

T.T. 1:30

M.M. 40

General Instructions:

1. All questions are compulsory.
2. Question paper is divided into four sections: Section A contains 10 Objective type questions each carry 1 mark, Section B contains 3 questions each carry 2 marks, Section C contains 4 questions each carry 3 marks and Section D contains 3 questions each carry 4 marks.

SECTION – A (1 mark each)

1. On rationalizing the denominator of $\frac{1}{\sqrt{3}-\sqrt{2}}$, we get
(a) $\frac{1}{\sqrt{3}+\sqrt{2}}$ (b) $\sqrt{3}+\sqrt{2}$ (c) $\sqrt{2}-\sqrt{3}$ (d) $-\sqrt{3}-\sqrt{2}$
2. The value of $64^{\frac{1}{2}}$ is :
(a) 8 (b) 4 (c) 16 (d) 32
3. The value of $p(x) = 5x - 4x^2 + 3$ for $x = -1$ is:
(a) 6 (b) -6 (c) 3 (d) -3
4. In $2 - x^2 + x^3$ the coefficient of x^2 is:
(a) 2 (b) 1 (c) -2 (d) -1
5. On dividing $x^3 + 3x^2 + 3x + 1$ by $x + \pi$ we get remainder:
(a) $-\pi^3 + 3\pi^2 - 3\pi + 1$ (b) $\pi^3 - 3\pi^2 + 3\pi + 1$
(c) $-\pi^3 - 3\pi^2 - 3\pi - 1$ (d) $-\pi^3 + 3\pi^2 - 3\pi - 1$
6. Point $(-6, 4)$ lies in the quadrant:
(a) I (b) II (c) III (d) IV
7. The point $(-4, -3)$ means:
(a) $x = -4, y = -3$ (b) $x = -3, y = -4$ (c) $x = 4, y = 3$ (d) None of these
8. Point $(4, 1)$ lies on the line:
(a) $x + 2y = 5$ (b) $x + 2y = -6$ (c) $x + 2y = 6$ (d) $x + 2y = 16$
9. Graph of $x = 2$ is a line:
(a) parallel to x - axis (b) parallel to y - axis
(c) passes through origin (d) None of these.
10. The linear equation $2x - 5y = 7$ has
(a) a unique solution (b) two solutions
(c) infinitely many solutions (d) no solutions.

SECTION – B (2 marks each)

11. For what value of c , the linear equation $2x + cy = 8$ has equal values of x and y for its solution.

12. Simplify: $\frac{\sqrt{32} + \sqrt{48}}{\sqrt{8} + \sqrt{12}}$

13. Find the coordinates of the point
(i) which lies on x and y axes both.
(ii) whose ordinate is -4 and which lies on y -axis.

SECTION – C(3 marks each)

14. Find the value of a and b in $\frac{5 + 2\sqrt{3}}{7 + 4\sqrt{3}} = a + b\sqrt{3}$

15. Evaluate: (i) $\left(\frac{625}{81}\right)^{-\frac{1}{4}}$ (ii) $27^{\frac{2}{3}} \times 27^{\frac{1}{3}} \times 27^{-\frac{4}{3}}$

16. Write Euclid's five postulates.

17. If $a + b + c = 5$ and $ab + bc + ca = 10$, then prove that $a^3 + b^3 + c^3 - 3abc = -25$.

SECTION – D (4 marks each)

18. Factorise : (i) $a^3 - 8b^3 - 64c^3 - 24abc$ (ii) $2\sqrt{2}a^3 + 8b^3 - 27c^3 + 18\sqrt{2}abc$.

19. Write the coordinates of the vertices of a rectangle whose length and breadth are 5 and 3 units respectively, one vertex at the origin, the longer side lies on the x -axis and one of the vertices lies in the third quadrant.

20. Draw the graphs of the equations $3x - 2y = 4$ and $x + y - 3 = 0$ in the same graph paper. Find the coordinates of the point where two lines intersect.

21. In the adjoining Figure, LM is a line parallel to the y -axis at a distance of 3 units.
(i) What are the coordinates of the points P , R and Q ?
(ii) What is the difference between the abscissa of the points L and M ?

