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SAMPLE PAPER 08 : 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. How many linear equation in x and y can be satisfied by $x = 1$ and $y = 2$?
(a) only one (b) two (c) infinitely many (d) three
2. The value of $\frac{1}{11}$ in decimal form is:
(a) $0.09\bar{9}$ (b) $0.90\bar{9}$ (c) $0.0\bar{9}$ (d) $0.00\bar{9}$
3. The value of $16^{3/4}$ is :
(a) 4 (b) 12 (c) 8 (d) 48
4. The graph of the linear equation $2x + 3y = 6$ is a line which meets the x axis at the point
(a) (2, 0) (b) (0, 3) (c) (3, 0) (d) (0, 2)
5. The graph of the $y = x$ passes through the point
(a) $\left(\frac{3}{2}, -\frac{3}{2}\right)$ (b) $\left(0, \frac{3}{2}\right)$ (c) (1, 1) (d) $\left(\frac{-1}{2}, \frac{1}{2}\right)$
6. The point (0, -3) lies on
(a) negative side of y – axis (b) negative side of x – axis
(c) positive side of x – axis (d) positive side of y – axis
7. If the coordinates of two points P and Q are (2, -3) and (-6, 5), then the value of (x-coordinate of P) – (x-coordinate of Q) is
(a) 2 (b) -6 (c) -8 (d) 8
8. If $x^3 + 3x^2 + 3x + 1$ is divided by $(x + 1)$, then the remainder is
(a) -8 (b) 0 (c) 8 (d) $\frac{1}{8}$
9. If $x + y + 2 = 0$, then $x^3 + y^3 + 8$ equals
(a) $(x + y + 2)^3$ (b) 0 (c) $6xy$ (d) $-6xy$
10. If $p(x) = 5x^2 - 3x + 7$, then $p(1)$ equals
(a) -10 (b) 9 (c) -9 (d) 10

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 $\frac{5 - 2\sqrt{3}}{5 + 2\sqrt{3}}$ by rationalizing the denominator.
13. Without plotting the points indicate the quadrant in which they will lie, if
(i) abscissa is -5 and ordinate is 3
(ii) ordinate is 5 and abscissa is 3

SECTION – C(3 marks each)

14. Find the value of $\frac{4}{(216)^{\frac{-2}{3}}} + \frac{1}{(256)^{\frac{-3}{4}}} + \frac{2}{(243)^{\frac{-1}{5}}}$
15. Write Euclid's five postulates.
16. Without finding the cubes, factorise $(x - 2y)^3 + (2y - 3z)^3 + (3z - x)^3$
17. Express $1.25252525\dots$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

SECTION – D (4 marks each)

18. 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.
19. 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.
20. Verify : (i) $x^3 + y^3 = (x + y)(x^2 - xy + y^2)$ (ii) $x^3 - y^3 = (x - y)(x^2 + xy + y^2)$
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