SAINIK SCHOOL GOPALGANJ
SUB- MATHEMATICS
CLASS-IX

ASSIGNMENT – 3

Part - I (Q.1 to Q.10) Given below are four options against each question. Choose the option which you consider the most appropriate as your answer.

1. The value of $\frac{\sqrt{32}+\sqrt{48}}{\sqrt{8}+\sqrt{12}}$ is equal to

   (a) $\sqrt{2}$

   (b) 2

   (c) 4

   (d) 8

2. The arrangement of $\sqrt{5},\sqrt{3},\sqrt{2}$ in ascending order is

   (a) $\sqrt{2},\sqrt{3},\sqrt{5}$

   (b) $\sqrt{5},\sqrt{3},\sqrt{2}$

   (c) $\sqrt{2},\sqrt{5},\sqrt{3}$

   (d) $\sqrt{3},\sqrt{2},\sqrt{5}$

3. The value of $0.\bar{2}$ in the form p/q , where p and q are integral and q is non zero

   (a) 1/5
   (b) 2/9
   (c) 2/5
   (d) 1/8

4. Which of the following is true?

   (a) Every whole number is a natural number

   (b) Every integer is a rational number
   (c) Every rational number is an integer
   (d) Every integer is a whole number

5. Decimal expansion of 1/7 is

   (a) $0.\overline{142857}$ (b) $0.\overline{142657}$

   (c) $0.\overline{142867}$ (d) None of these

6. Which of the following is not equal to $\left[\left(\frac{5}{6}\right)^{1/5}\right]^{-1/6}$

(a) $\left(\frac{5}{6}\right)^{1/5-1/6}$

(b) $\frac{1}{\left[\left(\frac{5}{6}\right)^{1/5}\right]^{1/6}}$

(c) $\left(\frac{6}{5}\right)^{1/30}$

(d) $\left(\frac{5}{6}\right)^{-1/30}$

7. If a = $5+2\sqrt{6}$ *and* $b=\frac{1}{a}$, then $a^2 + b^2$=

(a) 49

(b) 98

(c) 100

(d) None of these

8. If $\sqrt{13-a\sqrt{10}}=\sqrt{8}+\sqrt{5}$ then a =

(a) -4

(b) 4

(c) 2

(d) -2

9. Which of the following numbers can be represented as non terminating, repeating decimals?

(a) 39/24

(b) 3/16

(c) 3/11

(d) 137/25

10. Which of the following is a correct statement?

(a) Sum of two irrational numbers is always irrational

(b) Sum of two rational numbers is irrational.

(c) Sum of rational and irrational numbers s rational

d) None of these

Part - II

11. Find the value of the polynomial 5x – 4x2 + 3 at

(i) x = 0 (ii) x = –1 (iii) x = 2

12. Find p(0), p(1) and p(2) for each of the following polynomials:

(i) p(y) = y2 – y + 1 (ii) p(t) = 2 + t + 2t2 – t3

(iii) p(x) = x3 (iv) p(x) = (x – 1) (x + 1)

13. Find the zero of the polynomial in each of the following cases:

(i) p(x) = x + 5 (ii) p(x) = x – 5 (iii) p(x) = 2x + 5

(i) p(x) = 3x – 2 (ii) p(x) = 3x (iii) p(x) = ax, a ¹ 0

(i) p(x) = cx + d, where c, d are real numbers.

14. Find the remainder when x3 – ax2 + 6x – a is divided by x – a.

15. Check whether 7 + 3x is a factor of 3x3 + 7x.

16. The value of $\left\{8^{-4/3} \div 2^{-2}\right\}^{1/2}$ is

17 Find the smallest rational number by which 1/3 should be multiplied so that its decimal expansion terminates after one place to decimal?

18. Find the value If

$$\frac{2^{m+n}}{2^{n-m}} = 16 \; and \; a = 2^{1/10}, \; then \; \frac{a^{2m+n} - P}{(a^{m-2n} + 2p)^{-1}}$$

19. Find the value of $\sqrt{3 - 2\sqrt{2}}$

20. What will be the simplest rationalizing factor of $3\sqrt{500}$?

21. Simplify $\frac{1}{\sqrt{9}-\sqrt{8}}$

22. If x= 7 + $4\sqrt{3}$ and xy = 1 , then find the $1/x^2 + 1/y^2$

23. What is the positive square root of $7+\sqrt{48}$?

24. If $p(x) = 5x^2 - 3x+7$ then find the value of p (1).

25. If a = 7 then degree of find the polynomial $p(x) = (x-a)^3 + 343$

26. $x^2 + kx+6=(x+2)(x+3)$ for all x then find the value of k?

27. The linear equation 3x-y=x-1 has how many solutions?

28. The graph of the linear equation 2x+3y=6 cuts the y-axis at which point.

29. Find the graph of the linear equation which is y=x

30. Plot the Points (-3, 5) lies in which quadrant?

31. Signs of the abscissa and ordinate of a point in the second quadrant are respectively--------- & ---------- .

32. What is the Abscissa of all the points on the x-axis is

33. Ordinate of all points on the x-axis is ---------- .

34. The point at which the two co-ordinate axes meet is called the ----------.

35. Complete your copy up to chapter 3.

***