**ATOMIC ENERGY CENTRAL SCHOOL – 3, ANUSHAKTINAGAR MUMBAI**

 **Periodic Test -1 (2024-25)**

 **Class : X Time: 1 ½ H**

 **Subject- Mathematics MM: 40**

--------------------------------------------------------------------------------------------------------

Questions **1 to 4** have **1** mark each, Questions **5 to 8** have **2** marks each, and

Questions **9 to 12** have **3** marks each, and Questions **13 to 16** have **4** marks each

|  |  |
| --- | --- |
| 1. | Find the HCF of 24,36,42. |
| 2. | Find the sum of the zeros of the polynomial 3x2- 4x -20. |
| 3.  | Find the value of k for which the system of equations 2x +3y =7 and 6x + 9y = 4k+1 has an infinite number of solutions. |
| 4.  | Write the discriminant of the quadratic equation 2x2+ 5x-25 =0 |
| 5. | Find k if the equation 2x2- kx + 72 has two real and equal solutions. |
| 6. | The sum of two numbers is 45 and their difference is 13. Find the numbers. |
| 7. | Form a quadratic polynomial whose sum of the zeros is 9 and the product of the zeros is 20. |
| 8. | Find the smallest number which is exactly divisible by 20,25 and 30. |
| 9. | Prove that √2 is an irrational number. |
| 10.  | Find the zeros of the polynomial x2+8x +15, and verify the relation between the zeros and its coefficients. |
| 11. | Solve the system of equations 8x +5y =9 & 3x +2y =4 |
| 12.  | Solve the quadratic equation:- 3x2-7x +4 =0 |
| 13.  | Solve graphically:- x+y =5 & 2x -y =4 |
| 14. | The sum of the squares of two positive integers is 208. If the square of the larger number is 18 times the smaller number, find the numbers. |
| 15.  | 4 tables and 3 chairs cost Rs 22 500 and 3 tables and 4 chairs cost Rs 19 500. Find the cost of 2 chairs and 1 table.  |
| 16. | A train travels a distance of 480 km at a uniform speed. If the speed had been 8 km/h less, it would have taken 3 hours more to cover the same distance. Find the speed of the train. |