

DELHI PUBLIC SCHOOL, JAMMU

Foundation Sheet

Session:(2022-23)

Class: IX  
Mathematics

Subject:

Date: 07/05/2022

Month: May

1. Find the value of the polynomial  $5x-4x^2+3$  at  $x=0$
2. Factorize.  $64m^3 - 34n^3$
3. Evaluate  $(995)^2$  using suitable identity.
4. If  $x + \frac{1}{x} = 4$ , then find the value of  $x^4 + \frac{1}{x^4}$
5. Use suitable identity to find  $(0.98 \times 1.02)$
6. Simplify  $(a+ 2b + 3c)^2 - (a-2b -3c)^2$
7. Verify that whether -1 is zeroes of polynomial  $p(x) = 2x^3-9x^2 + x +12$  and find the value of  $p(0)$ ,  $p(1)$  and  $p(2)$ .
8. What are length and breadth of rectangle whose area is  $4a^2+4a -3$ .
9. If  $a+b = 10$  and  $a^2 + b^2 = 58$ , then find the value of  $a^3+b^3$ .
10. Factorise  
(i)  $a^8 - b^8$ . (ii)  $a^6 - b^6$ . (iii)  $x^2 + 2x + 1$ . (iv)  $x^3 + 2x^2 + 32x + 20$
11. Check whether  $(x-3)$  is factor of  $p(x) = 5x^2 + 2x - 2$
12. Find remainder if  $p(x) = 2ax^2 - ax + (a-1)$  is divided by  $x-a$ .
13. Find K if  $(x-1)$  is a factor of  $x^2 + Kx - 1$ .
14. Find a and b such that  $x^2 - 2x - 3$  is factor of  $x^3 - 3x^2 + ax - b$ .
15. If a,b,c are all non- zero and  $a+b+c = 0$ , prove that  $\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab} = 3$

