Chapter- 2

Polynomials

WORKSHEET

01. Verify that (-2) is a zero of the polynomial $9x^3 - 18x^2 - x - 2$.

02. Find the zeroes of the quadratic polynomial $2x^2 - 25$.

03. Find the zeroes of the polynomial $4\sqrt{3}x^2 + 5x - 2\sqrt{3}$.

04. For what value of k, is 3 a zero of the polynomial $2x^2 + x + k$?

05. Prove that $x^2 + 6x + 10$ has no real zero.

06. Find the values of p and q so that 1 and -2 are the zeros of the polynomial $x^3 + 10x^2 + px + q$.

07. Write the zeros of $100x^2 - 81$.

08. If 1 is a zero of polynomial $p(x) = ax^2 - 3(a-1) - 1$, then find the value of a.

09. Find the sum of the zeroes of quadratic polynomial $x^2 + 7x + 10$.

10. For what value of k, -4 is a zero of the polynomial $x^2 - x - (2k+2)$?

11. Is x = -4, a solution of the equation $2x^2 + 5x - 12 = 0$?

12. For what value of k, -2 is a zero of the polynomial $3x^2 + 4x + 2k$?

13. If α and β are the zeroes of the polynomial $3x^2 + 5x - 2$, then form a quadratic polynomial whose zeroes are 2α and 2β.

14. If α, β are zeroes of the polynomial $x^2 - 4x + 3$, then from a quadratic polynomial whose zeroes are 3α and 3β.

15. If α, β are the two zeroes of the polynomial $6y^2 - 7y + 2$ find a quadratic polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$.

16. If α,β are the two zeroes of the polynomial $3x^2-4x+1$, find a quadratic polynomial whose zeroes are $\frac{\alpha^2}{\beta}$ and $\frac{\beta^2}{\alpha}$.

17. If α,β are the two zeroes of the polynomial $3x^2+2x+1$, find the quadratic polynomial whose zeroes are $\frac{1-\alpha}{1+\alpha}$ and $\frac{1-\beta}{1+\beta}$.

18. If α,β are the two zeroes of the polynomial $2x^2-5x+7$, find the quadratic polynomial whose zeroes are $2\alpha+3\beta$ and $3\alpha+2\beta$.

19. If α and $\frac{1}{\alpha}$ are the zeroes of the polynomial $4x^2-2x+(k-4)$, find the value of k.

20. If the product of the zeroes of the polynomial (ax^2-6x-6) is 4, then find the value of a.

21. Find a cubic polynomial, whose zeroes are -2, -3 and -1.

22. Find the zeroes of the quadratic polynomial (x^2+5x+6) and verify the relation between the zeroes and the coefficients.

23. Find the quadratic polynomial, sum of whose zeroes is 8 and their product is 12. Hence, find the zeroes of polynomial.

24. Find a quadratic polynomial with zeroes $3+\sqrt{2}$ and $3-\sqrt{2}$

25. If α and β are zeroes of the quadratic polynomial $p(x)=x^2-(k+6)x+2(2k-1)$, then find the value of k, if $\alpha+\beta=\frac{\alpha\beta}{2}$.