

INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS: X SUBJECT: MATHEMATICS DATE: 09-04-2023

LESSON:02 - POLYNOMIALS

1. The sum and product of the zeroes of a quadratic polynomial are 3 and -10 respectively, then find the quadratic polynomial (Ans: $x^2 - 3x - 10$)
2. Find the polynomial whose zeroes are $\frac{1}{3}$ & $\frac{-3}{4}$ (Ans: $12x^2 + 5x - 3$)
3. If the sum of zeroes of the quadratic polynomial $5x^2 - kx + 8$ is 3, then find the value of k (Ans: $k = 15$)
4. If α and β are the zeroes of the polynomial $ax^2 + bx + c$, find the value $\alpha^2 + \beta^2$ (Ans: $\frac{b^2 - 2ac}{a^2}$)
5. If α & β are the zeroes of the polynomial $x^2 - 5x + k$ such that $\alpha - \beta = 1$, Find the value of k (Ans: $k = 6$)
6. Find the zeroes of the quadratic polynomial $f(x) = x^2 - 3x - 28$ and verify the relationship between the zeroes and coefficients of the polynomial (Ans: -4 and 7)
7. If the sum of the zeroes of the quadratic polynomial $kt^2 + 2t + 3k$ is equal to their product, find the value of k? (Ans: $\frac{-2}{3}$)
8. If α and β are the zeroes of the polynomial $f(x) = x^2 - 6x + k$, find the value of k, such that $\alpha^2 + \beta^2 = 40$ (Ans: - 2)
9. If one zero of the polynomial $2x^2 + 3x + p$ is $\frac{1}{2}$, find the value of p and the other zero (Ans: $p = - 2$, other zero = - 2)
10. If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find the quadratic polynomial whose zeroes are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$ (Ans: $2y^2 - 7y + 6$)
11. If one zero of $5x^2 + 13x + k$ is the reciprocal of the other zero, then find the value of k (Ans: 5)
12. If p and q are the zeroes of the polynomial $4y^2 - 4y + 1$. What is the value of $\frac{1}{p} + \frac{1}{q} + pq$ (Ans: $\frac{17}{4}$)
