REVISION SHEET CH - 02 POLYNOMIALS X

Standard: 10th **Subject: Mathematics**

Q1. For what value of k, is 3 a zero of the polynomial $2x^2 + x + k$?

Q2. If the sum of the zeros of the quadratic polynomial $f(x) = kx^2 - 3x + 5$ is 1, write the value of k.

Q3. Very-Short-Answer Question:
If -2 is a zero of the polynomial $3x^2 + 4x + 2k$ then find the value of k.

Q4. If the product of zeros of the quadratic polynomial $f(x) = x^2 - 4x + k$ is 3, find the value of k.

Q5. If α, β are the zeros of the polynomial $2y^2 + 7y + 5$, write the value of $\alpha + \beta + \alpha\beta$.

Q6. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is the reciprocal of the other, find the value of a.

Q7. The Sum and product of the zeros of a quadratic polynomial are $-\frac{1}{2}$ and -3 respectively. What is the quadratic polynomial?

Q8. Write a quadratic polynomial, sum of whose zeros is $2\sqrt{3}$ and their product is 2.

Q9. Find the zeroes of the following quadratic polynomial and verify the relationship between the zeroes and the coefficients.
$x^2 - 2x - 8$

Q10. Find the quadratic polynomial, sum and product of whose zeroes are 1 and -20 respectively. Also find the zeroes of the polynomial so obtained.

Q11. Find the value of k such that the polynomial $x^2 - (k + 6)x + 2(2k - 1)$ has sum of its zeros equal to half of their product.

Q12. If α and β are the zeros of the quadratic polynomial $p(x) = 4x^2 - 5x - 1$, find the value of $\alpha^2\beta + \alpha\beta^2$.

Q13. If α and β are the zeroes of the quadratic polynomial such that $\alpha + \beta = 24$ and $\alpha - \beta = 8$, find a quadratic polynomial have α and β as its zeroes.

Q14. If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - x - 2$, find the value of $\frac{1}{\alpha} - \frac{1}{\beta}$

Q15. If α, β are the zeros of a polynomial such that $\alpha + \beta = -6$ and $\alpha\beta = -4$, then write the polynomial.

Q16. If one zero of the quadratic polynomial $f(x) = 4x^2 - 8kx - 9$ is negative of the other, find the value of k.

Q17. If α and β are the zeros of the quadratic polynomial $f(x) = 6x^2 + x - 2$, find the value of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$

Q18. Find the zeros of the following quadratic polynomial and verify the relationship between the zeros and the coefficients:
$5x^2 - 4 - 8x$

Q19. If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - x - 4$, find the value of $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$

Q20. Very-Short-Answer Question:
Find the zeros of the polynomial $x^2 - 3x - m(m + 3)$.