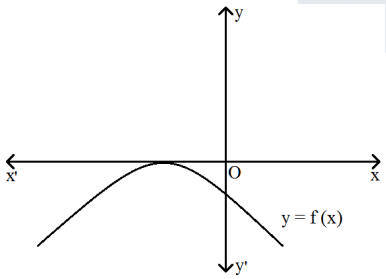
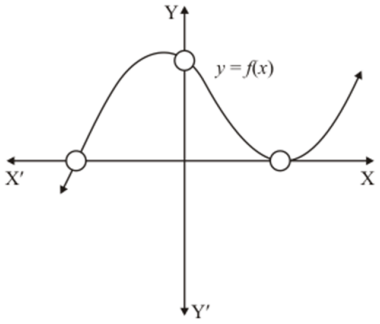
[64]

*** Given section consists of questions of 2 marks each.**

1. Find the zeroes of the polynomial $x^2 - 3$ and verify the relationship between the zeroes and the coefficients.
2. Find the zeroes of the quadratic polynomial $x^2 + 7x + 10$, and verify the relationship between the zeroes and the coefficients.
3. If the zeroes of the polynomial $f(x) = x^3 - 3x^2 + x + 1$ are a - b, a, a + b, find a and b.
4. Find a quadratic polynomial, the sum and product of whose zeroes are $\sqrt{2}, \frac{1}{3}$ respectively.
5. Find the zeroes of quadratic polynomial $t^2 - 15$ and verify the relationship between the zeroes and their coefficients.
6. Find the zeroes of quadratic polynomial $4u^2 + 8u$ and verify the relationship between the zeroes and their coefficients.
7. Find the zeroes of quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and their coefficients.
8. If the product of zeros of the quadratic polynomial $f(x) = x^2 - 4x + k$ is 3, find the value of k.
9. If the sum of the zeros of the quadratic polynomial $f(x) = kx^2 - 3x + 5$ is 1, write the value of k.
10. If α, β are the zeros of the polynomial $2y^2 + 7y + 5$, write the value of $\alpha + \beta + \alpha\beta$.
11. What must be subtracted from the polynomial $f(x) = x^4 + 2x^3 - 13x^2 - 12x + 21$ so that the resulting polynomial is exactly divisible by $x^2 - 4x + 3$?
12. Write the family of quadratic polynomials having $-\frac{1}{4}$ and 1 as its zeros.
13. If a quadratic polynomial f(x) is factorizable into linear distinct factors, then what is the total number of real and distinct zeros of f(x)?
14. The graph of the polynomial $f(x) = ax^2 + bx + c$ is as shown in Fig. Write the value of $b^2 - 4ac$ and the number of real zeros of f(x).



15. Write the standard form of a quadratic polynomial with real coefficients.
16. The graph of the polynomial $f(x) = ax^2 + bx + c$ is as shown in Fig. Write the value of $b^2 - 4ac$ and the number of real zeros of f(x), write the sign of c.
17. If α and β are the zeroes of the quadratic polynomial $f(x) = ax^2 + bx + c$, then evaluate:
$\frac{1}{\alpha} - \frac{1}{\beta}$
18. If α and β are the zeroes of the quadratic polynomial $f(x) = ax^2 + bx + c$, then evaluate:
$\alpha - \beta$
19. If α and β are the zeroes of the quadratic polynomial $f(x) = ax^2 + bx + c$, then evaluate:
$\frac{1}{\alpha} + \frac{1}{\beta} - 2\alpha\beta$
20. Write a quadratic polynomial, sum of whose zeros is $2\sqrt{3}$ and their product is 2.
21. If the graph of quadratic polynomial $ax^2 + bx + c$ cuts negative direction of y-axis, then what is the sign of c?
22. The graph of a polynomial y = f(x), shown in Fig. Find the number of real zeros of f(x).



23. The Sum and product of the zeros of a quadratic polynomial are $-\frac{1}{2}$ and -3 respectively. What is the quadratic polynomial?
24. Very-Short-Answer Question:
    If α and β are the zeroes of a polynomial $2x^2 + 7x + 5$, write the value of $\alpha + \beta + \alpha\beta$.
25. Very-Short-Answer Question:
    If 3 is a zero of the polynomial $2x^2 + x + k$, find the value of k.
26. Very-Short-Answer Question:
    If the sum of the zeros of the quadratic polynomial $kx^2 - 3x + 5$ is 1, write the value of k.
27. Very-Short-Answer Question:
    If -2 is a zero of the polynomial $3x^2 + 4x + 2k$ then find the value of k.
28. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is the reciprocal of the other, find the value of a.
29. Very-Short-Answer Question:
    If one zero of the quadratic polynomial $kx^2 + 3x + k$ is 2 then find the value of k.
30. Very-Short-Answer Question:
    If 1 is a zero of the polynomial $ax^2 - 3(a - 1)x - 1$, then find the value of a.
31. Very-Short-Answer Question:
    Write the zeros of the polynomial $x^2 - x - 6$
32. Very-Short-Answer Question:
    If one zero of the polynomial $x^2 - 4x + 1$ is $2 + \sqrt{3}$. Write the other zero.

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