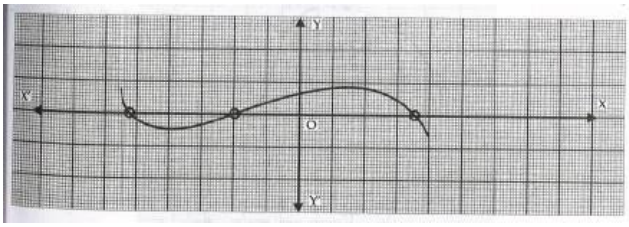
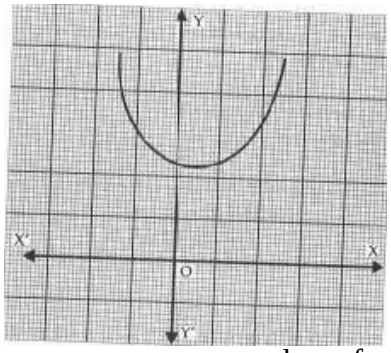
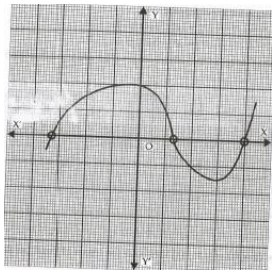
Ch-2 Polynomials

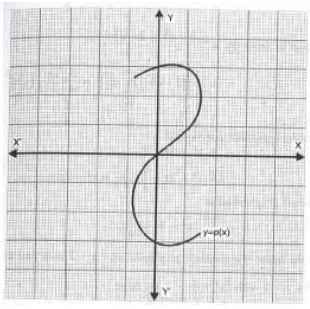
1. If one zero of the polynomial $5z^2 + 13z - p$ is reciprocal of the other, then find p.
2. Does polynomial $y^4 + 4y^2 + 5$ have zeroes or not?
3. Write a quadratic polynomial, sum of whose zeroes is $2\sqrt{3}$ and product is 5.
4. Write the zeroes of the polynomial $x^2 + 2x + 1$.
5. Find the zeroes of the quadratic polynomial $x^2 + 5x + 6$ and verify the relationship between the zeroes and the coefficients.
6. Draw graph of the function $f(x) = -2x^2 + 4x$.
7. For what value of k, (–4) is a zero of the polynomial $x^2 - x - (2k + 2)$?
8. For what value of p, (–4) is a zero of the polynomial $x^2 - 2x - (7p + 3)$?
9. If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a - 1)x - 1$, then find the value of a.
10. Write the zeroes of the polynomial $x^2 + 2x + 1$.
11. Write the zeroes of the polynomial $x^2 - x - 6$.
12. Write a quadratic polynomial, the sum and product of whose zeroes are 3 and –2 respectively.
13. Write the number of zeroes of the polynomial y = f(x) whose graph is given in the left figure below.





14. The graph of y = f(x) is given in the right figure above. How many zeroes are there for f(x)?
15. The graph of y = f(x) is given in the left figure below. What is the number of zeroes for f(x)?





16. What is the number of zeroes of the polynomial y = p(x) in the right figure above?
17. Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficient of the polynomial.
18. Find the zeroes of the quadratic polynomial $5x^2 - 4 - 8x$ and verify the relationship between the zeroes and the coefficient of the polynomial.
19. Find the quadratic polynomial, the sum of whose zeroes is 8 and their product is 12. Hence, find the zeroes of the polynomial.
20. If one zero of the polynomial $(a^2 - 9)x^2 + 13x + 6a$ is reciprocal of the other, find the value of 'a'.

21. If the product of zeroes of the polynomial $ax^2 – 6x – 6$ is 4, find the value of 'a'.
22. Find the quadratic polynomial whose zeroes are 1 and –3. Verify the relation between the coefficients and the zeroes of the polynomial.
23. Find the zeroes of the quadratic polynomial $4x^2 – 4x – 3$ and verify the relation between the zeroes and its coefficients.
24. Find a quadratic polynomial whose zeroes are –4 and 3 and verify the relationship between the zeroes and the coefficients.
25. If α and β are zeroes of the quadratic polynomial $x^2 – 6x + a$; find the value of 'a' if $3\alpha + 2\beta = 20$.
26. What is the value of $p(x) = x^2 – 3x – 4$ at $x = –1$?
27. What is the zero of $2x + 3$?
28. The Coefficient of x and the constant term in a linear polynomial are 5 and –3 respectively. Find its zero.
29. Find the product of zeroes of the quadratic polynomial $3x^2 + 5x – 2$.
30. The sum and product of the zeroes of a quadratic polynomial are $\frac{-1}{2}$ and –3 respectively. What is the quadratic polynomial?
31. If 1 is a zero of the polynomial $p(x) = ax^2 – 3(a – 1)x – 1$, then find the value of a.
32. Write a quadratic polynomial, the sum and product of whose zeroes are 3 and –2 respectively.
33. If α and β are the zeroes of a quadratic polynomial $x^2 + x – 2$, then find the value of $\frac{1}{\alpha} - \frac{1}{\beta}$.
34. If α and β are the zeroes of $x^2 + px + q$ then find the value of $\left(\frac{\alpha}{\beta} + 2\right).\left(\frac{\beta}{\alpha} + 2\right)$.
35. Find the zeroes of $2x^2 – 8x + 6$.
36. Find the value of 'k' such that the quadratic polynomial $3x^2 + 2kx + x – k – 5$ has the sum of zeroes as half of their product.
37. Find the zeroes of the quadratic polynomial $4x^2 – 6 – 8x$ and verify the relationship between the zeroes and the coefficients of the polynomial.
38. Find a quadratic polynomial whose zeroes are –12 and 4 and verify the relationship between the zeroes and the coefficients.