Exercise E - 2

Class :- 10th

25. Find all the zeroes of the polynomial $x^3 + 3x^2 - 2x - 6$, if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$.

26. Find all the zeroes of the polynomial $2x^3 - x^2 - 5x - 2$, if two of its zeroes are –1 and 2.

27. Find all the zeroes of the polynomial $x^3 + 3x^2 - 5x - 15$, if two of its zeroes are $\sqrt{5}$ and $-\sqrt{5}$.

28. Find all the zeroes of the polynomial $x^3 - 4x^2 - 3x + 12$, if two of its zeroes are $\sqrt{3}$ and $-\sqrt{3}$.

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29. Find all the zeroes of the polynomial $2x^3 + x^2 - 6x - 3$, if two of its zeroes are $\sqrt{3}$ and $-\sqrt{3}$.

30. Find all the zeroes of the polynomial $x^4 + x^3 - 34x^2 - 4x + 120$, if two of its zeroes are 2 and –2.

31. If the polynomial $6x^4 + 8x^3 + 17x^2 + 21x + 7$ is divided by another polynomial $3x^2 + 4x + 1$, the remainder comes out to be (ax + b), find a and b.

32. If the polynomial $x^4 + 2x^3 + 8x^2 + 12x + 18$ is divided by another polynomial $x^2 + 5$, the remainder comes out to be px + q, find the value of p and q.

33. Find the zeroes of a polynomial $x^3 - 5x^2 - 16x + 80$, if its two zeroes are equal in magnitude but opposite in sign.

34. If two zeroes of the polynomial $x^4 + 3x^3 - 20x^2 - 6x + 36$ are $\sqrt{2}$ and $-\sqrt{2}$, find the other zeroes of the polynomial.

35. On dividing $x^3 - 3x^2 + x + 2$ by a polynomial g(x), the quotient and remainder were x – 2 and –2x + 4 respectively. Find g(x).

36. If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4, find the value of 'a'.

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

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

39. Find a polynomial whose zeroes are 2 and –3.

40. Find the zeroes of the quadratic polynomial $x^2 + 5x + 6$ and verify the relationship between the zeroes and the coefficients.

41. Find the sum and product of zeroes of $p(x) = 2(x^2 - 3) + x$.

42. Find a quadratic polynomial, the sum of whose zeroes is 4 and one zero is 5.

43. Find the zeroes of the polynomial $p(x) = \sqrt{2}x^2 - 3x - 2\sqrt{2}$.

44. If α and β are the zeroes of $2x^2 + 5(x - 2)$, then find the product of α and β.

45. Find a quadratic polynomial, the sum and product of whose zeroes are 5 and 3 respectively.

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