### Important Questions for Class 10 Maths Chapter 2 Polynomials

Question 15.Find the zeroes of the quadratic polynomial $3x^2 - 75$ and verify the relationship between the zeroes and the coefficients.

Question 16.Find the zeroes of $p(x) = 2x^2 - x - 6$ and verify the relationship of zeroes with these co-efficient.

Question 17.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 $x^2 - 4x + 3$?

### Polynomials Class 10 Important Questions Short Answer-II (3 Marks)

Question 18.Verify whether 2, 3 and 12 are the zeroes of the polynomial $p(x) = 2x^3 - 11x^2 + 17x - 6$.

Question 19.Show that 1/2 and −3/2 are the zeroes of the polynomial $4x^2 + 4x - 3$ and verify the relationship between zeroes and co-efficient of polynomial.

Question 20.Find a quadratic polynomial, the sum and product of whose zeroes are -8 and 12 respectively. Hence find the zeroes.

Question 21.Find a quadratic polynomial, the sum and product of whose zeroes are 0 and −3/5 respectively. Hence find the zeroes.

Question 22.Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficients of the polynomial.

Question 23.Find the zeroes of the quadratic polynomial $f(x) = x^2 - 3x - 28$ and verify the relationship between the zeroes and the co-efficient of the polynomial.

Question 24.If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find a quadratic polynomial whose zeroes are 1/α and 1/β.

Question 25.Divide $3x^2 + 5x - 1$ by $x + 2$ and verify the division algorithm.

Question 26.On dividing $3x^3 + 4x^2 + 5x - 13$ by a polynomial $g(x)$ the quotient and remainder were $3x + 10$ and $16x - 43$ respectively. Find the polynomial $g(x)$.

Question 27.Check whether polynomial x – 1 is a factor of the polynomial $x^3 – 8x^2 + 19x – 12$. Verify by division algorithm.

## Polynomials Class 10 Important Questions Long Answer (4 Marks)

Question 28.Divide $4x^3 + 2x^2 + 5x – 6$ by $2x^2 + 1 + 3x$ and verify the division algorithm.

Question 29.Given that x – $\sqrt{5}$ is a factor of the polynomial $x^3 – 3\sqrt{5} x^2 – 5x + 15\sqrt{5}$, find all the zeroes of the polynomial.

Question 30.If a polynomial $x^4 + 5x^3 + 4x^2 – 10x – 12$ has two zeroes as -2 and -3, then find the other zeroes.

Question 31.Find all the zeroes of the polynomial $8x^4 + 8x^3 – 18x^2 – 20x – 5$, if it is given that two of its zeroes are $\sqrt{\dfrac{5}{2}} \, and \, -\sqrt{\dfrac{5}{2}}$.

Question 32.If p(x) = $x^3 – 2x^2 + kx + 5$ is divided by (x – 2), the remainder is 11. Find k. Hence find all the zeroes of $x^3 + kx^2 + 3x + 1$.

Question 33.If α and β are zeroes of p(x) = $kx^2 + 4x + 4$, such that $α^2 + β^2 = 24$, find k.

Question 34.If α and β are the zeroes of the polynomial p(x) = $2x^2 + 5x + k$, satisfying the relation, $α^2 + β^2 + αβ = 21/4$ then find the value of k.

Question 35.What must be subtracted from p(x) = $8x^4 + 14x^3 – 2x^2 + 8x – 12$ so that $4x^2 + 3x – 2$ is factor of p(x)? This question was given to group of students for working together.

Question 36.Find the values of a and b so that $x^4 + x^3 + 8x^2 +ax – b$ is divisible by $x^2 + 1$.

Question 37.If a polynomial $3x^4 – 4x^3 – 16x^2 + 15x + 14$ is divided by another polynomial $x^2 – 4$, the remainder comes out to be px + q. Find the value of p and q.

Question 38.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 values of p and q.