STD X

EXTRA SUGGESTIVE QUESTIONS

1. If one zero of the polynomial $5z^2 + 13z - p$ is reciprocal of the other, then find p.
2. If the product of two zeroes of polynomial $2x^3 + 3x^2 - 5x - 6$ is 3, then find its third zero.
3. Find the polynomial of least degree which should be subtracted from the polynomial $x4 + 2x^3 - 4x^2 + 6x - 3$ so that it is exactly divisible by $x^2 - x + 1$.
4. Is polynomial $y^4 + 4y^2 + 5$ have zeroes or not?
5. Write a quadratic polynomial, sum of whose zeroes is $2\sqrt{3}$ and product is 5.
6. Write the zeroes of the polynomial $x^2 + 2x + 1$.
7. If the zeroes of the polynomial $f(x) = x^3 - 12x^2 + 39x + a$ are in AP, find the value of a.
8. A polynomial g(x) of degree zero is added to the polynomial $2x^3 + 5x^2 - 14x + 10$ so that it becomes exactly divisible by $2x - 3$. Find the g(x).
9. Find the zeroes of the quadratic polynomial $x^2 + 5x + 6$ and verify the relationship between the zeroes and the coefficients.
10. If the zeroes of polynomial $x^3 - ax^2 + bx - c$ are in AP then show that $2a^3 - 9ab + 27c = 0$
11. If 1 and –1 are zeroes of polynomial $Lx^4 + Mx^3 + Nx^2 + Rx + P$, show that $L + N + P = M + R = 0$
12. Draw graph of the function $f(x) = -2x^2 + 4x$.
13. If $x + a$ is a factor of the polynomial $x^2 + px + q$ and $x^2 + mx + n$ prove that $a = \frac{n-q}{m-p}$.
14. Find a cubic polynomial with the sum, sum of the product of its zeroes taken two at a time and product of its zeroes are $3, \frac{-1}{2}, \frac{5}{4}$ respectively.
15. Write cubic polynomial whose zeroes are $\frac{2+\sqrt{5}}{2}, \frac{2-\sqrt{5}}{2}, 4$.
16. α, β, γ are zeroes of cubic polynomial $kx^3 - 5x + 9$.
If $\alpha^3 + \beta^3 + \gamma^3 = 27$, find the value of k.
17. α, β, γ are zeroes of cubic polynomial $x^3 - 12x^2 + 44x + c$.
If α, β, γ are in AP, find the value of c.
18. Two zeroes of cubic polynomial $ax^3 + 3x^2 - bx - 6$ are –1 and –2. Find the third zero and value of a and b.
19. α, β, γ are zeroes of cubic polynomial $x^3 - 2x^2 + qx - r$.
If $\alpha + \beta = 0$ then show that $2q = r$.
20. α, β, γ are zeroes of polynomial $x^3 + px^2 + qx + 2$ such that α.
$\beta + 1 = 0$. Find the value of $2p + q + 5$.

Answers

1. –5	**2.** 1	**3.** x – 1	**4.** No	**5.** $x^2 - 2\sqrt{3x} + 5$
6. –1, –1	**7.** –28	**8.** g(x) = –7	**9.** –3, –2	**14.** $k(4x^3 - 12x^2 - 2x - 5)$
15. $k(4x^3 - 24x^2 + 31x + 4)$	**16.** k = –1	**17.** c = –48	**18.** a= 2, b = 5, third zero = $\frac{3}{2}$	**20.** 0