

Exercise E - 1

1. If $p(x) = 3x^3 - 2x^2 + 6x - 5$, find $p(2)$.
2. Draw the graph of the polynomial $f(x) = x^2 - 2x - 8$.
3. Draw the graph of the polynomial $f(x) = 3 - 2x - x^2$.
4. Draw the graph of the polynomial $f(x) = -3x^2 + 2x - 1$.
5. Draw the graph of the polynomial $f(x) = x^2 - 6x + 9$.
6. Draw the graph of the polynomial $f(x) = x^3$.
7. Draw the graph of the polynomial $f(x) = x^3 - 4x$.
8. Draw the graph of the polynomial $f(x) = x^3 - 2x^2$.
9. Draw the graph of the polynomial $f(x) = -4x^2 + 4x - 1$.
10. Draw the graph of the polynomial $f(x) = 2x^2 - 4x + 5$.
11. Find the quadratic polynomial whose zeroes are $2 + \sqrt{3}$ and $2 - \sqrt{3}$.
12. Find the quadratic polynomial whose zeroes are $\frac{3 - \sqrt{3}}{5}$ and $\frac{3 + \sqrt{3}}{5}$.
13. Find a quadratic polynomial whose sum and product of zeroes are $\sqrt{2}$ and 3 respectively.
14. Find the zeroes of the polynomial $mx^2 + (m + n)x + n$.
15. If m and n are zeroes of the polynomial $3x^2 + 11x - 4$, find the value of $\frac{m}{n} + \frac{n}{m}$.
16. If a and b are zeroes of the polynomial $x^2 - x - 6$, then find a quadratic polynomial whose zeroes are $(3a + 2b)$ and $(2a + 3b)$.
17. If p and q are zeroes of the polynomial $t^2 - 4t + 3$, show that $\frac{1}{p} + \frac{1}{q} - 2pq + \frac{14}{3} = 0$.
18. If $(x - 6)$ is a factor of $x^3 + ax^2 + bx - b = 0$ and $a - b = 7$, find the values of a and b .
19. If 2 and -3 are the zeroes of the polynomial $x^2 + (a + 1)x + b$, then find the value of a and b .
20. Obtain all zeroes of polynomial $f(x) = 2x^4 + x^3 - 14x^2 - 19x - 6$ if two of its zeroes are -2 and -1 .
21. Find all the zeroes of the polynomial $2x^3 - 4x - x^2 + 2$, if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$.
22. Find all the zeroes of the polynomial $x^4 - 3x^3 + 6x - 4$, if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$.
23. Find all the zeroes of the polynomial $2x^4 - 9x^3 + 5x^2 + 3x - 1$, if two of its zeroes are $2 + \sqrt{3}$ and $2 - \sqrt{3}$.
24. Find all the zeroes of the polynomial $2x^4 + 7x^3 - 19x^2 - 14x + 30$, if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$.

Comet Classes