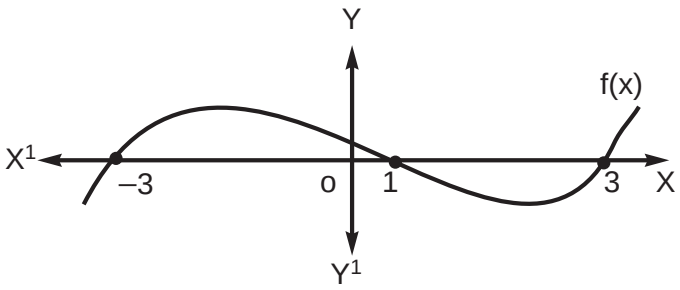
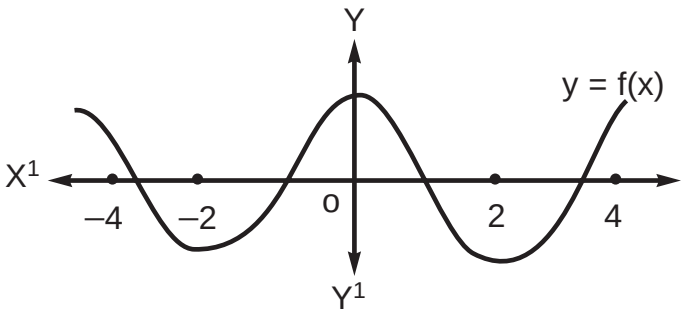
3. POLYNOMIALS

1. The graph of the polynomial f(x) = 3x –7 is a straight line which intersects the x- axis at exactly one point namely ____
2. In the given figure , the number of zeros of the polynomial f(x) are ____



3. The number of zeros lying between –2 and 2 of the polynomial f(x) whose graph in given figure is ____



4. The degree of the constant polynomial is ____
5. The zero of p(x) = ax–b is ____
6. If α and β are the zeroes of the polynomial $3x^2+5x+2$,then the value of $\alpha+\beta+\alpha\beta$ is ____
7. If the sum of the zeroes of the polynomial $p(x) = (k^2–14)\ x^2–2x–12$ is 1, then k takes the value (s) ____
8. If α and β are zeroes of $p(x) = x^2–5x+k$ and $\alpha–\beta = 1$ then the value of k is ____
9. If α, β, γ are the zeros of the polynomial ax^3+bx^2+cx+d, then the value of $1/\alpha+1/\beta+1/\gamma$ is ____
10. If the product of the two zeros of the polynomial $x^3–6x^2+11x–6$ is 2 then the third zero is ____
11. The zeros of the polynomial of $x^3–x^2$ are ____
12. If the zeroes of the polynomial $x^3–3x^2 + x + 1$ are a/r, a and ar then the value of a is ____

13. If α and β are the zeroes of the quadratic polynomial $9x^2-1$, the value of $\alpha^2+\beta^2$ is ____
14. If α, β, γ are the zeroes of the polynomial $x^3 + px^2 + qx + r$ then $1/\alpha\beta + 1/\beta\gamma + 1/\alpha\gamma$ is ____
15. The number to be added to the polynomial x^2-5x+4, so that 3 is the zero of the polynomial is ____
16. If α, β are zeroes of $p(x) = 2x^2-x-6$ then the value of $\alpha^{-1}+\beta^{-1}$ is ____
17. ____ is the coefficient of the first term of the quotient when $3x^3+x^2+2x+5$ is divided by $1+2x+x^2$.
18. If the divisor is x^2 and quotient is x while the remainder is 1, then the dividend is___
19. The maximum number of zeroes that a polynomial of degree 3 can have is ____
20. The number of zeroes that the polynomial $f(x) = (x-2)^2 +4$ can have is ____
21. The graph of the equation $y = ax^2+ bx+ c$ is an upward parabola, if ____
22. If the graph of a polynomial does not intersect the x – axis, then the number of zeroes of the polynomial is ____
23. The degree of a biquadratic polynomial is ____
24. The degree of the polynomial

    $7u^6 - \frac{3}{2}u^4 + 4u^2 + u - 8$ is ____
25. The value of $p(x) = x^3-3x-4$ at $x = -1$ is ____
26. The polynomial whose zeroes are –5 and 4 is ____
27. If –1 is a zero of the polynomial $f(x) = x^2-7x-8$ then other zero is ____
28. If the product of the zeroes of the polynomial $ax^3-6x^2+11x-6$ is 6, then the value of a is ____
29. A cubic polynomial with the sum, sum of the product of its zeroes taken two at a time, and the product of its zeroes are 2, –7 and –14 respectively, is ____
30. For the polynomial $2x^3-5x^2-14x+8$, the sum of the products of

zeroes , taken two at a time is ____

31. If the zeroes of the quadratic polynomial ax^2+bx+c are reciprocal to each other, then the value of c is ____
32. ____ can be the degree of the remainder at most when a biquadrate polynominal is divided by a quadratic polynomial.

ANSWERS

1) (7/3, 0); 2) 3; 3) 2; 4) 0; 5) b/a; 6) –1; 7) ±4; 8) 6; 9) –c/d; 10) 3; 11) 0, 0, 1;

12) –1; 13) 2/9; 14) p/r; 15) 2; 16) –1/6; 17) 3; 18) x^3+1; 19) 3; 20) 2; 21) a>0;

22) 0; 23) 4; 24) 6; 25) –2; 26) $x^2+x–20$; 27) 8; 28) 1;

29) $x^3–2x^2–7x+14$; 30) –7; 31) a; 32) 1.