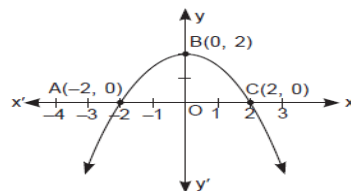


ANANDALAYA

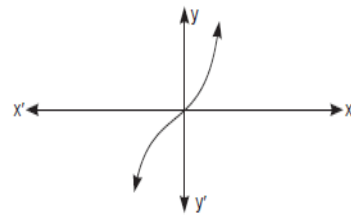
CLASS X (BASIC & STANDARD)

POLYNOMIAL (ONE MARK QUESTIONS) - 2021- 22

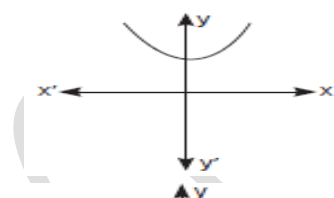
1. Product of the zeros of the quadratic polynomial $x^2 - 5$
 (A) -1 (B) -5 (C) 5 (D) none of the these
2. If α and β are the zeros of the polynomial $x^2 + 2x + 4$, then the value of $\alpha^3 + \beta^3 =$ _____
 (A) 4 (B) 8 (C) 16 (D) none of the these
3. A quadratic polynomial whose zeroes are $3 + 2\sqrt{2}$ and $3 - 2\sqrt{2}$.
 (A) $x^2 + 6x + 1$ (B) $x^2 - 6x + 1$ (C) $x^2 - 6x - 1$ (D) $x^2 - 9x + 8$
4. Find a quadratic polynomial whose zeroes are $5 + \sqrt{2}$, $5 - \sqrt{2}$
5. If one zero of the polynomial $3x^2 - 7px + 10p$ is 5, find p .
 (A) 4 (B) 2 (C) 3 (D) none of the these
6. If α, β are zeroes of polynomial $x^2 - 6x + k$, find the value of k such that $(\alpha + \beta)^2 - 2\alpha\beta = 40$.
 a) -2 b) 2 c) 3 d) None of these
7. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is
 (A) 10 (B) -10 (C) 5 (D) -5
8. Quadratic polynomial, whose zeroes are -3 and 4 is _____
9. Given that two of the zeroes of the cubic polynomial $ax^3 + bx^2 + cx + d$ are 0, the third zero is _____
 (A) $-\frac{b}{a}$ (B) $\frac{b}{a}$ (C) $\frac{c}{a}$ (D) $-\frac{d}{a}$
- 10 If the sum of the zeros of the quadratic polynomial $ky^2 + 2y - 3k$ is equal to twice their product, then $k =$ _____
 A) $\sqrt{\frac{1}{3}}$ (B) $\frac{1}{3}$ (C) $-\frac{1}{3}$ (D) $\frac{1}{6}$
- 11 If α, β and γ are the zeros of the polynomial $6x^3 + 3x^2 - 5x + 1$. find the value of $\alpha^{-1} + \beta^{-1} + \gamma^{-1}$
- 12 The graph of $y = f(x)$ is given, for some polynomial $f(x)$. Find the number of zeroes of $f(x)$.



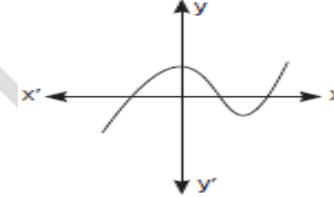
13 The graph of $y = f(x)$ is given below. How many zeroes are there of $f(x)$?



14 The graph of $y = f(x)$ is given below. How many zeroes are there of $f(x)$?



15 The graph of $y = f(x)$ is given below, for some polynomial $f(x)$. Find the number of zeroes of $f(x)$.



16 If α, β are the zeroes of a polynomial, such that $\alpha + \beta = 6$ and $\alpha\beta = 4$, then write the polynomial.

- (a) $k(x^2 - 6x + 4)$ (b) $k(x^2 + 6x + 4)$ (c) $k(x^2 - 4x + 6)$ (d) $k(x^2 + 4x + 6)$

17 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 .

- (a) -1 (b) 2 (c) 7 (d) 1

18 If α and β are roots of the equation $2x^2 - 10x + 5 = 0$ then the value of $(\alpha + 2)(\beta + 2) =$ _____.

19 Find the value of m if polynomial $p(x) = 4x^2 - 6x - m$ is exactly divisible by $x - 3$.

20 If 1 is a zero of the polynomial $p(x) = ax^2 - 3(a - 1) - 1$, then the value of $a =$ _____.

21 If the sum of the zeroes of the quadratic polynomial $ky^2 + 2y - 3k$ is equal to twice their product, find the value of k .

22 Find the product of the zeroes of $3x^2 - x + 7$

23 If α and β are zeros of the quadratic polynomial $x^2 - 3kx + k^2$, the value of k if $\alpha^2 + \beta^2 = \frac{7}{4}$

24 If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is _____

25 The quadratic polynomial whose zeroes are $\sqrt{15}$ and $-\sqrt{15}$ is _____

26 Find the sum of the zeroes of the given quadratic polynomial $-3x^2 + k$.

- 27 If one zero of the polynomial $x^2 - 4x + 1$ is $2 + \sqrt{3}$, write the other zero.
- 28 For what value of p , (-4) is a zero of the polynomial $x^2 - 2x - (7p + 3)$?
- 29 If $x + 2$ is a factor of the polynomial $5x^3 + (k + 2)x^2 - 3kx + 2$, then find the value of k .
- 30 Find the zeroes of the polynomial $(x - 2)^2 + 4$.
- 31 If $p(x) = ax + b$. Find zeroes of $p(x)$.
- 32 $P(x) = ax^2 + bx + c$. If $a + b + c = 0$, then find one of its zero.
- 33 A polynomial of degree five is divided by a quadratic polynomial. If it leaves a remainder, then find the degree of remainder
- 34 If $x^3 + x^2 - ax + b$ is divisible by $x^2 - x$, write the values of a and b .
- 35 Write the zeroes of polynomial $x^2 - x - 6$.
- 36 Find the sum of the zeroes of quadratic polynomial $x^2 + 7x + 1$
- 37 If $p(x) = 5x - 10$ is divided by $x - \sqrt{2}$, then find remainder.
- 38 If one of the zeros of $ax^2 + bx + c$ is triple the other, show that $3b^2 = 16ac$
- 39 If one zero of the polynomial $p(x) = (a^2 + 9)x^2 + 45x + 6a$ is reciprocal of the other, find the value of a .
- 40 Find the zeroes of the polynomial $\sqrt{3}x^2 + 10x + 7\sqrt{3}$.
- 41 If α and β are the zeroes of the quadratic polynomial $x^2 + 5x - k$ and $\alpha - \beta = 1$, find the value of k .
- 42 If p and q are the zeroes of the polynomial $x^2 + 7x + 7$, then form a quadratic polynomial whose zeroes are $2p$ and $2q$.
- 43 If α and β are the zeroes of the quadratic polynomial $x^2 - 3x - 2$ form a quadratic polynomial whose zeroes are $\frac{1}{2\alpha + \beta}$ and $\frac{1}{2\beta + \alpha}$.
- 44 If α and β are zeroes of the quadratic polynomial $x^2 + kx + 12$ such that $\alpha - \beta = 1$, find k
- 45 If α and β are the zeroes of $x^2 - 5x + 6$, find the value of $\alpha^2 - \beta^2$.

- 46 Form a quadratic polynomial with rational coefficient and one of whose zeroes is $3 + \sqrt{5}$.
- 47 If α and β are the zeroes of $2x^2 - 3x + 2$, form a quadratic polynomial whose zeroes are $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$.
- 48 If α and β are two numbers such that $\alpha + \beta = a$ and $\alpha - \beta = b$, find a quadratic polynomial whose zeroes α and β .
- 49 If α and β are the zeroes of $2x^2 - 5x - 7$, form a quadratic polynomial whose zeroes are $\alpha + 2\beta$ and $\beta + 2\alpha$.
- 50 Find the condition on a , b and c so that one zero of $ax^2 + bx + c$ is double the other zero.

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