

Previous Year Boards Questions

Chapter 2 – Polynomials

1 Mark:

1. The roots of the equation $x^2 + x - p(p + 1) = 0$, where p is a constant, are

A) $p, p + 1$

B) $-p, p + 1$

C) $p, -(p + 1)$

D) $-p, -(p + 1)$

CBSE 2011, Delhi (30/1/1)

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

CBSE 2010, Delhi (30/1/1)

3. If one zero of the polynomial $x^2 - 4x + 1$ is $2 + \sqrt{3}$, write the other zero.

CBSE 2010, Foreign (30/2/1)

4. For what value of k , (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$?

CBSE 2009, Delhi (30/1/1)

5. Write the polynomial, the product and sum of whose zeroes are $-\frac{9}{2}$ and $-\frac{3}{2}$ respectively.

CBSE 2009, Foreign (30/2/1)

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

CBSE 2009, Outside Delhi (30/1)

7. Show that $x = -3$ is a solution of $x^2 + 6x + 9 = 0$.

CBSE 2008, Foreign (30/2/1)

8. Show that $x = -3$ is a solution of $2x^2 + 5x - 3 = 0$.

CBSE 2008, Foreign (30/2/2)

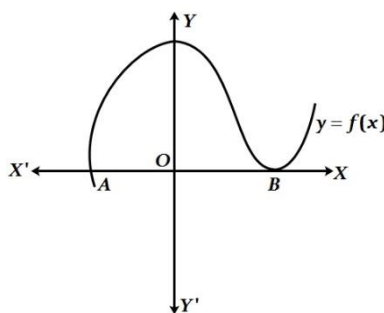
9. If $(x + a)$ is a factor of $2x^2 + 2ax + 5x + 10$, find a .

CBSE 2008, Foreign (30/2/2)

10. The sum and product of the zeroes of a quadratic polynomial are $-1/2$ and -3 respectively. What is the quadratic polynomial?

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11. The graph of $y = f(x)$ is given below. Find the number of zeroes of $f(x)$.

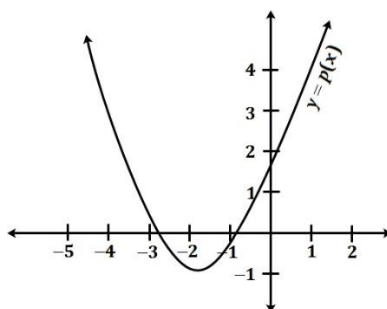


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12. Give an example of polynomials $f(x), g(x), q(x)$ and $r(x)$ satisfying $f(x) = g(x) \cdot q(x) + r(x)$ where $\deg r(x) = 0$.

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13. In Fig. the graph of polynomial $p(x)$ is given. Find the zeroes of the polynomial.



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2 Marks:

- If two zeroes of the polynomial $x^3 - 4x^2 - 3x + 12$ are $\sqrt{3}$ and $-\sqrt{3}$, then find its third zero.
CBSE 2010, Delhi (30/1/1)
- If -1 and 2 are two zeroes of the polynomial $2x^3 - x^2 - 5x - 2$, find its third zero.
CBSE 2010, Foreign (30/2/1)
- If the polynomial $6x^4 + 8x^3 + 17x^2 + 21x + 7$ is divided by another polynomial $3x^2 + 4x + 1$, the remainder comes out to be $(ax + b)$, find a and b .
CBSE 2009, Delhi (30/1/1)
- Find all the zeroes of the polynomial $x^3 + 3x^2 - 2x - 6$, if two of its zeroes are $-\sqrt{2}$ and $\sqrt{2}$.
CBSE 2009, Outside Delhi (30/1)
- Find all the zeroes of the polynomial $x^4 + x^3 - 34x^2 - 4x + 120$, if two its zeroes are 2 and -2 .
CBSE 2008, Foreign (30/2/2)
- Write a quadratic polynomial, sum of whose zeroes is $2\sqrt{3}$ and their product is 2 .
CBSE Sample Paper III 2008
- What are the quotient and the remainder, when $3x^4 + 5x^3 - 7x^2 + 2x + 2$ is divided by $x^2 + 3x + 1$?
CBSE Sample Paper III 2008

3 Marks:

- If the polynomial $6x^4 + 8x^3 - 5x^2 + ax + b$ is exactly divisible by the polynomial $2x^2 - 5$, then find the value of a and b .
CBSE 2009, Foreign (30/2/1)
- If two zeroes of polynomial $x^4 + 3x^3 - 20x^2 - 6x + 36$ are $\sqrt{2}$ and $-\sqrt{2}$, find the other zeroes of the polynomial.
CBSE 2007, Outside Delhi (30/1)
- Find the zeroes of the quadratic polynomial $x^2 + 5x + 6$ and verify the relationship between the zeroes and the coefficients.
CBSE Sample Paper II 2008
- Find all the zeroes of the polynomial $3x^4 + 6x^3 - 2x^2 - 10x - 5$ if two of its zeroes are $\sqrt{\frac{5}{3}}$ and $-\sqrt{\frac{5}{3}}$.
CBSE Sample paper I 2017-2018