

# 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  $\alpha, \beta$  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)

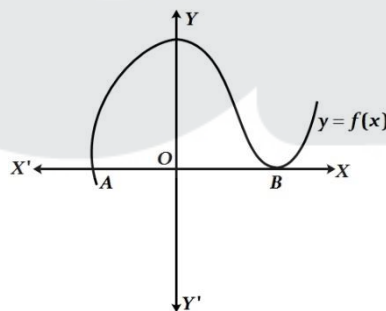
9. If  $(x + a)$  is a factor of  $2x^2 + 2ax + 5x + 10$ , find  $a$ .

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  $f(x)$ .

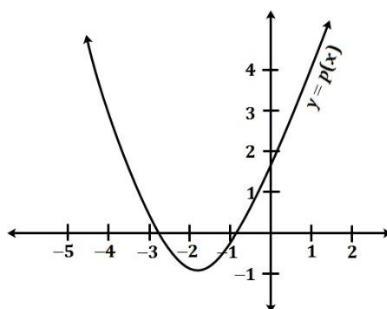


CBSE Sample Paper II 2008

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 of 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  $2$ .  
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- 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