Polynomials

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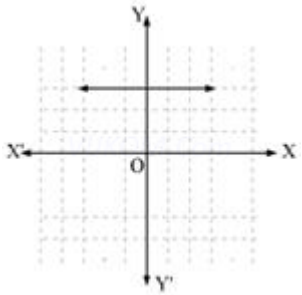
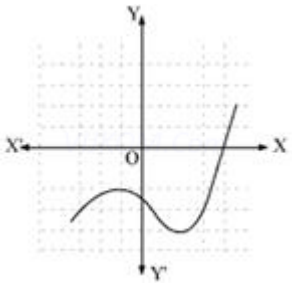
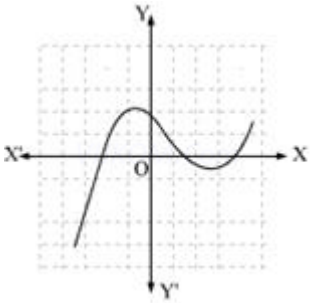
1. The graphs of y=p(x) are given to us, for some polynomials p(x). Find the number of zeroes of p(x), in each case.



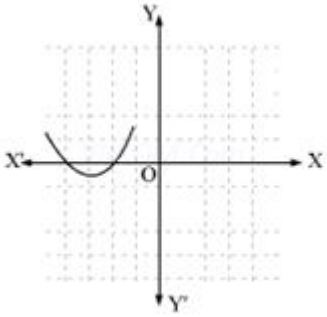
(i)



(ii)

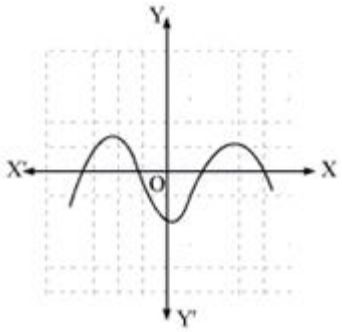


(iii)

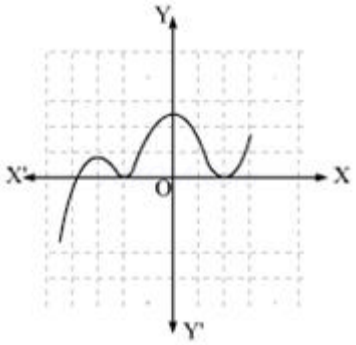


(iv)

(v)



(vi)



Ans. (i) The graph does not meets x-axis at all. Hence, it does not have any zero.
(ii) Graph meets x-axis 1 time. It means this polynomial has 1 zero.
(iii) Graph meets x-axis 3 times. Therefore, it has 3 zeroes.
(iv) Graph meets x-axis 2 times. Therefore, it has 2 zeroes.
(v) Graph meets x-axis 4 times. It means it has 4 zeroes.
(vi) Graph meets x-axis 3 times. It means it has 3 zeroes

2. Which of the following is polynomial?

(a) $x^2 - 6\sqrt{x} + 2$

(b) $\sqrt{x} + \frac{1}{\sqrt{x}}$

(c) $\frac{5}{x^2 - 3x + 1}$

(d) none of these

Ans. (d) none of these

3. Polynomial $2x^4 + 3x^3 - 5x^2 - 5x^2 + 9x + 1$ **is a**

(a) linear polynomial
(b) quadratic polynomial
(c) cubic polynomial

(d) bi-quadratic polynomial
Ans. (d) bi-quadratic polynomial

4. If α and β are zeros of x^2+5x+8, then the value of $(\alpha+\beta)$ is
(a) 5
(b) -5
(c) 8
(d) -8
Ans. (b) -5

5. The sum and product of the zeros of a quadratic polynomial are 2 and -15 respectively. The quadratic polynomial is
(a) $x^2-2x+15$
(b) $x^2-2x-15$
(c) $x^2+2x-15$
(d) $x^2+2x+15$
Ans. (b) $x^2-2x-15$

6. If p (x) = $2x^2$ – 3x + 5, 3x + 5, then P(-1) is equal to
(a) 7
(b) 8
(c) 9
(d) 10
Ans. (d) 10

7. Zeros of p (x) = x^2 – 2x – 3 are
(a) 3 and 1
(b) 3 and -1
(c) -3 and -1
(d) 1 and -3
Ans. (b) 3 and -1

8. If α and β are the zeros of $2x^2 + 5x - 10$, then the value of $\alpha\beta$ is

(a) $-\frac{5}{2}$

(b) 5

(c) -5

(d) $\frac{2}{5}$

Ans. (c)-5

9. A quadratic polynomial, the sum and product of whose zeros are 0 and $\sqrt{5}$ respectively is

(a) $x^2+\sqrt{5}$

(b) $x^2-\sqrt{5}$

(c) $x^2 - 5$

(d) None of these

Ans. a) $x^2+\sqrt{5}$

10. Which of the following is polynomial?

(a) $x^2-6\sqrt{x}+2$

(b) $\sqrt{x}+\frac{1}{\sqrt{x}}$

(c) $\frac{5}{x^2-3x+1}$

(d) none of these

Ans. (d) none of these

11. Polynomial $2x^4+3x^3-5x^2-5x^2+9x+1$ is a

(a) linear polynomial

(b) quadratic polynomial

(c) cubic polynomial

(d) bi-quadratic polynomial

Ans. (d) bi-quadratic polynomial

12. If α and β are zeros of x^2+5x+8, then the value of $(\alpha+\beta)$ is
(a) 5
(b) -5
(c) 8
(d) -8
Ans. (b) -5

13. The sum and product of the zeros of a quadratic polynomial are 2 and -15 respectively. The quadratic polynomial is
(a) $x^2-2x+15$
(b) $x^2-2x-15$
(c) $x^2+2x-15$
(d) $x^2+2x+15$
Ans. (b) $x^2-2x-15$