

Chapter - 2

Polynomials

(Assertion and Reasoning Questions)

In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
- (c) Assertion (A) is true but reason (R) is false.
- (d) Assertion (A) is false but reason (R) is true.

Q.1. Assertion (A) : $x^2+7x+12$ has no real zeroes.

Reason (R) : A quadratic polynomial can have at the most two zeroes.

Q.2. Assertion (A) : If the sum of the zeroes of the quadratic polynomial $x^2-2kx+8$ is 2 then value of k is 1.

Reason (R) : Sum of zeroes of a quadratic polynomial ax^2+bx+c is $-b/a$

Q.3. Assertion (A) : $P(x) = 4x^3-x^2+5x^4+3x-2$ is a polynomial of degree 3.

Reason (R) : The highest power of x in the polynomial P(x) is the degree of the polynomial.

Q.4. Assertion (A) : x^3+x has only one real zero.

Reason (R) : A polynomial of nth degree must have n real zeroes.

Q.5. Assertion (A) : If one zero of polynomial $p(x) = (k^2+4)x^2+13x+4k$ is reciprocal of the other, then $k=2$.

Reason (R) : If $(x-a)$ is a factor of $p(x)$, then $p(a) = 0$ i.e., a is a zero of $p(x)$.

Q.6. Assertion (A) : x^2+4x+5 has two zeroes.

Reason (R) : A quadratic polynomial can have at the most two zeroes.

Q.7. Assertion (A) : Degree of a zero polynomial is not defined.

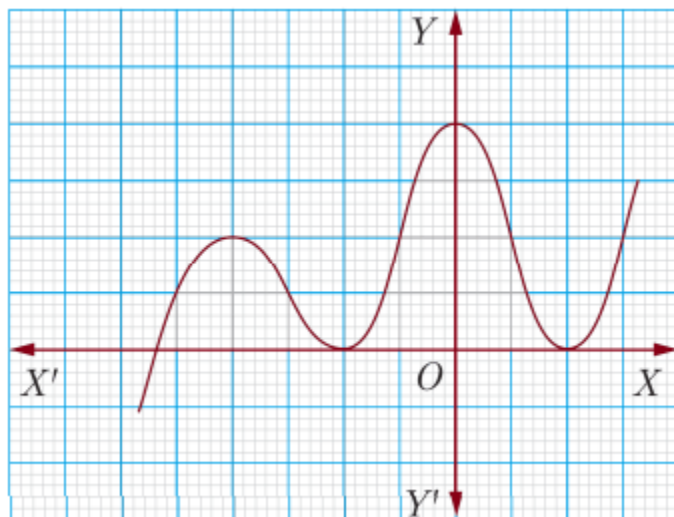
Reason (R) : Degree of a non-zero constant polynomial is 0.

Q.8. Assertion (A) : If the product of the zeroes of the quadratic polynomial $x^2+3x+5k$ is -10 then value of k is -2.

Reason (R) : Sum of zeroes of a quadratic polynomial ax^2+bx+c is $-b/a$

Q.9. Assertion (A) : The graph $y=f(x)$ is shown in figure, for the polynomial $f(x)$. The number of zeroes of $f(x)$ is 3.

Reason (R) : The number of zero of the polynomial $f(x)$ is the number of point of which $f(x)$ cuts or touches the axes.



Q.10. Assertion (A) : $3-2\sqrt{5}$ is one zero of the quadratic polynomial then other zero will be $3+2\sqrt{5}$.

Reason (R) : Irrational zeros (roots) always occurs in pairs.

-X-X-X-

ANSWER KEY

Q.1 : (d)

Q.2 : (a)

Q.3 : (d)

Q.4 : (c)

Q.5 : (b)

Q.6 : (d)

Q.7 : (b)

Q.8 : (b)

Q.9 : (c)

Q.10 : (a)