

CLASS –IX

Maths

Date:-23/04/2020

CHAPTER 2 - POLYNOMIALS

- Watch the online videos “POLYNOMIALS -Lectures no- 1, 2 & 3” from Optimum Online E-Learning Platform and try to comprehend the concepts of polynomials & its values and zeroes . After that try to solve the questions given in your assignment.
- Lecture no_01
- Lecture no_02
- Lecture no_03

1. Which of the following expressions are polynomials? In case of a polynomial, write its degree.

(i) $x^5 - 2x^3 + x + \sqrt{3}$

(ii) $y^3 + \sqrt{3y}$

(iii) $t^2 - \frac{2}{5}t + \sqrt{5}$

(iv) $x^{100} - 1$

(v) $\frac{1}{\sqrt{2}}x^2 - \sqrt{2x} + 2$

(vi) $x^{-2} + 2x^{-1} + 3$

(vii) $-3/5$

(viii) $-3/5$

(ix) $\frac{x^2}{2} - 2/x^2$

(x) $\sqrt[3]{2x^2} - 8$

2. Identify constant, linear, quadratic, cubic and quartic polynomials from the following.

(i) $-7 + x$

(ii) $6y$

(iii) $-z^3$

(iv) $1 - y - y^3$

(v) $x - x^3 + x^4$

3. Determine the degree of each of the following polynomials.

(i) $\frac{4x - 5x^2 + 6x^3}{2x}$

- (ii) $y^2(y - y^3)$
- (iii) $(3x - 2)(2x^3 + 3x^2)$
- (iv) $\frac{1}{2}x + 3$
- (v) -8
- (vi) $x^{-2}(x^4 + x^2)$

4. (i) Give an example of a monomial of degree 5.
 (ii) Give an example of a binomial of degree 8.
 (iii) Give an example of a trinomial of degree 4.
 (iv) Give an example of a monomial of degree 0.

5. If $p(x) = 5 - 4x + 2x^2$ find 2

- (i) $p(0)$
- (ii) $p(3)$
- (iii) $p(-2)$

6. If $p(x) = x^3 + x^2 - 9x - 9$, find $p(0)$, $p(3)$, $p(-3)$ and $p(-1)$. 3 2 What do you conclude about the zeros of $p(x)$? Is 0 a zero of $p(x)$?

7. Verify that

- (i) 4 is a zero of the polynomial, $p(x) = x - 4$.
- (ii) -3 is a zero of the polynomial, $q(x) = x + 3$.
- (iii) 2 5 is a zero of the polynomial, $f(x) = 2 - 5x$.
- (iv) -1 2 is a zero of the polynomial, $g(y) = 2y + 1$.

8. Verify that

- (i) 1 and 2 are the zeros of the polynomial, $p(x) = x^2 - 3x + 2$.
- (ii) 2 and -3 are the zeros of the polynomial, $q(x) = x^2 + x - 6$.
- (iii) 0 and 3 are the zeros of the polynomial, $r(x) = x^2 - 3x$.

9. Find the zero of the polynomial:

- (i) $p(x) = x - 5$
- (ii) $q(x) = x + 4$
- (iii) $r(x) = 2x + 5$
- (iv) $f(x) = 3x + 1$
- (v) $p(x) = ax, a \neq 0$

10. If 2 and 0 are the zeros of the polynomial $f(x) = 2x^3 - 5x^2 + ax + b$ then find the values of 'a' and 'b'.

****Link of Optimum Online E-Learning Platform:- www.optimumschool.net/online**

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