

NCERT Solutions For Class 9 Maths Chapter 2 Polynomials

Exercise 2.1 Class 9 Maths Question 1

Which of the following expressions are polynomials in one variable and which are not? State reasons for your answer

(i) $4x^2 - 3x + 7$

(ii) $y^2 + \sqrt{2}$

(iii) $3\sqrt{t} - t\sqrt{2}$

(iv) $y + 2/y$

(v) $x^{10} + y^3 + t^{50}$

Solution.

(i) There is only one variable x with whole number power so this polynomial in one variable

(ii) There is only one variable y with whole number power so this polynomial in one variable

(iii) There is only variable t but in $3\sqrt{t}$ power of t is $1/2$ which is not a whole number so $3\sqrt{t} + t\sqrt{2}$ is not a polynomial

(iv) There is only one variable y but $2/y = 2y^{-1}$ so the power is not a whole number so $y + 2/y$ is not a polynomials

(v) There are three variable x , y and t and their powers are whole number so this polynomial in three variable

Exercise 2.1 Class 9 Maths Question 2

Write the coefficients of x^2 in each of the following:

(i) $2 + x^2 + x$

(ii) $2 - x^2 + x^3$

(iii) $\pi/2x^2 + x$

(iv) $\sqrt{2x} - 1$

Solution:

(i) Coefficients of $x^2 = 1$

(ii) Coefficients of $x^2 = -1$

(iii) Coefficients of $x^2 = \pi/2$

(iv) Coefficients of $x^2 = 0$

Exercise 2.1 Class 9 Maths Question 3

Give one example each of a binomial of degree 35, and of a monomial of degree 100.

Solution:

Example of binomial degree = $3x^{35} + 7$

Example of monomial degree = $4x^{100}$

Exercise 2.1 Class 9 Maths Question 4

Write the degree of each of the following polynomials:

(i) $5x^3 + 4x^2 + 7x$

(ii) $4 - y^2$

(iii) $5t - \sqrt{7}$

(iv) 3

Solution:

(i) $5x^3$ has highest power in the given polynomial which power is 3.
Therefore, degree of polynomial is 3

(ii) $-y^2$ has highest power in the given polynomial which power is 2.
Therefore, degree of polynomial is 2

(iii) $5t$ has the highest power in the given polynomial which power is 1. Therefore, degree of polynomial is 1

(iv) There is no variable in the given polynomial. Therefore, degree of polynomial is 0

Exercise 2.1 Class 9 Maths Question 5

Classify the following as linear, quadratic and cubic polynomials:

(i) $x^2 + x$

(ii) $x - x^3$

(iii) $y + y^2 + 4$

(iv) $1 + x$

(v) $3t$

(vi) r^2

(vii) $7x^3$

Solution:

(i) Quadratic Polynomial

(ii) Cubic Polynomial

(iii) Quadratic Polynomial

(iv) Linear Polynomial

(v) Linear Polynomial

(vi) Quadratic Polynomial

(vii) Cubic Polynomial

