

Polynomials

Ex. 2.1

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

It is a polynomial in one variable x as the exponents of the variable x are whole numbers.

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

It is a polynomial in one variable y as the exponent of the variable y is a whole number.

(iii) $3\sqrt{t} + t\sqrt{2}$
 $= 3t^{\frac{1}{2}} + t\sqrt{2}$

It is not a polynomial in one variable as the exponent of t i.e. $\frac{1}{2}$ is not a whole number.

(iv) $y + \frac{2}{y}$

$= y + 2y^{-1}$

It is not a polynomial in one variable as the exponent of y i.e. (-1) is not a whole number.

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

It is not a polynomial in one variable as there are three variables i.e. x , y and t .

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

Coefficient of x^2 is 1.

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

Coefficient of x^2 is (-1) .

(iii) $\frac{\pi}{2}x^2 + x$

Coefficient of x^2 is $\frac{\pi}{2}$.

3. $2x^{35} + 7$ is a binomial of degree 35.
 $7y^{100}$ is a monomial of degree 100.

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

Degree of polynomial is 3 as the highest power of the variable x is 3.

(ii) $4 - y^2$

Degree of polynomial is 2 as the highest power of the variable y is 2.

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

Degree of polynomial is 1 as the highest power of the variable t is 1.

(iv) $3 = 3 \times 1 = 3x^0$ [$\because x^0 = 1$]

Degree of polynomial is 0 as the highest power of the variable x is 0.

OR Degree of the polynomial is 0 as it is a constant polynomial.

5(i) $x^2 + x$

It is a quadratic polynomial as the degree is 2.

(ii) $x - x^3$

It is a cubic polynomial as the degree is 3.

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

It is a quadratic polynomial as the degree is 2.

(iv) $1 + x$

It is a linear polynomial as the degree is 1.

(v) $3t$

It is a linear polynomial as the degree is 1.

(vi) x^2

It is a quadratic polynomial as the degree is 2

(vii) $7x^3$

It is a cubic polynomial as the degree is 3.

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