PUBLIC SCHOOL DARBHANGA
SESSION (2020-21)
CLASS-IX
MATHEMATICS
POLYNOMIALS
(REVISION)

1. **(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.

2. **Rewrite each of the following polynomials in standard form.**

(i) $x - 2x^2 + 8 + 5x^3$

(ii) $^{2/3} + 4y^2 - 3y + 2y^3$

(iii) $6x^3 + 2x - x^5 - 3x^2$

(iv) $+ t - 3t^3 + t^4 - t^2$

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

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

(ii) $y(y - y^3)$

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

(iv) $-1/2x + 3$

(v) -8

(vi) $x^{-}(x^4 + x^2)$

ANSWER KEY

Solution: 1

(i) Example of a monomial of degree 5 is $4x^5$.

(ii) Example of a binomial of degree 8 is $x - 4x^8$.

(iii) Example of a trinomial of degree 4 is $1 + 3x + x^4$.

(iv) Example of a monomial of degree 0 is 1.

Solution: 2

(i) $x - 2x^2 + 8 + 5x^3$ in standard form is written as $5x^3 - 2x^2 + x + 8$.

(ii) $\frac{2}{3} \pm 4y^2 - 3y + 2y^3$ in standard form is written as $2y^3 + 4y^2 - 3y + \frac{2}{3}$.

(iii) $6x^3 + 2x - x^5 - 3x^2$ in standard form is written as $-x^5 + 6x^3 - 3x^2 + 2x$.

(iv) $2 + t - 3t^3 + t^4 - t^2$ in standard form is written as $t^4 - 3t^3 - t^2 + t + 2$.

Solution:3

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

We can write it separately as

$= \frac{4x}{2x} - \frac{5x^2}{2x} + \frac{6x^3}{2x}$

On further simplification we get

$= 2 - \frac{5}{2}x + 3x^2$

The degree of the given expression is 2.

(ii) $y^2(y - y^3)$

By multiplying the terms
We get

$= y^3 - y^5$

The degree of the given expression is 5.

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

By multiplying the terms we get

$= 6x^4 + 9x^3 - 4x^3 - 6x^2$

On further simplification

$= 6x^4 + 5x^3 - 6x^2$

The degree of the given expression is 4.

(iv) $-\frac{1}{2}x + 3$

The degree of the given expression is 1.

(v) -8

The given expression is a constant polynomial of degree zero.

(vi) $x^{-2}(x^4 + x^2)$

By taking common terms out

$= x^{-2}. x^2 (x^2 + 1)$

On further simplification

$= x^{-2+2}(x^2 + 1)$

So we get

$= x^0(x^2 + 1)$

$= x^2 + 1$

The degree of the given expression is 2.