📘 Class 9 Maths Chapter 2 – Exercise 2.1

Introduction to Linear Polynomials

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Exercise 2.1 has **5 questions** and focuses on the basics of polynomials: **degree, examples of different degrees, coefficients and constant terms**.

🟢 Question 1

Find the degrees of the following polynomials:

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

The highest power of x is **2**.

✅ **Degree = 2**

(ii) $y^3 + 2y - 1$

The highest power of y is **3**.

✅ **Degree = 3**

(iii) -9

-9 is a non-zero constant polynomial.

A constant can be considered to have degree **0**.

✅ **Degree = 0**

(iv) $4z - 3$

The highest power of z is **1**.

✅ **Degree = 1**

⭐ Answers:

(i) 2 (ii) 3 (iii) 0 (iv) 1

🟡 Question 2

Write polynomials of degrees 1, 2 and 3.

Many answers are possible.

Degree 1 – Linear polynomial

$3x + 5$

Degree 2 – Quadratic polynomial

$x^2 + 2x + 1$

Degree 3 – Cubic polynomial

$x^3 + 2x^2 - x + 4$

✅ Answer:

Degree	Type	Example
1	Linear	$3x + 5$
2	Quadratic	$x^2 + 2x + 1$
3	Cubic	$x^3 + 2x^2 - x + 4$

Note: Other correct polynomials of the required degrees are also acceptable.

🔵 Question 3

What are the coefficients of x^2 and x^3 in the polynomial:

$x^4 - 3x^3 + 6x^2 - 2x + 7$?

Look at the terms containing the required powers:

$-3x^3$ → coefficient of x^3 is **−3**

$6x^2$ → coefficient of x^2 is **6**

✅ Answer:

Coefficient of x^2 = 6

Coefficient of x^3 = −3

🟣 Question 4

What is the coefficient of z in the polynomial:

$4z^3 + 5z^2 - 11$?

A term containing z means z^1.

The polynomial has:

- $4z^3$
- $5z^2$
- -11

There is **no z^1 term**.

Therefore, its coefficient is **0**.

✅ Answer:

Coefficient of z = 0

🟠 Question 5

What is the constant term of the polynomial:

$9x^3 + 5x^2 - 8x - 10$?

The **constant term** is the term that does not contain a variable.

Here:

-10

contains no variable.

✅ Answer:

Constant term = −10

📋 Exercise 2.1 – Quick Answer Key

Question	Answer
1(i)	**2**
1(ii)	**3**
1(iii)	**0**
1(iv)	**1**
2	Any correct degree 1, 2 and 3 polynomials
3	Coefficient of x^2 = **6**; coefficient of x^3 = **−3**
4	Coefficient of z = **0**
5	Constant term = **−10**

🧠 Quick Revision

Degree → Highest power of the variable
Coefficient → Numerical factor multiplying a variable term
Constant term → Term without a variable
Degree 1 → Linear polynomial
Degree 2 → Quadratic polynomial
Degree 3 → Cubic polynomial