

**NCERT Solutions for Class 10 Maths Chapter 2 Ex 2.1:** Chapter 2 of Class 10 Maths, **Polynomials**, focuses on the concepts of degrees, zeros, and the relationship between coefficients and zeros of a polynomial. Exercise 2.1 introduces the basics of polynomials, including types (linear, quadratic, and cubic) based on their degree.

Students learn to identify polynomials, determine their degrees, and distinguish between polynomials and non-polynomials. The exercise tests foundational understanding and encourages logical reasoning with simple questions like identifying polynomials and verifying their degrees. This chapter builds the groundwork for advanced topics like factorization and graphing, crucial for understanding higher-level algebra and calculus.

## **NCERT Solutions for Class 10 Maths Chapter 2 Ex 2.1 Overview**

Exercise 2.1 of Chapter 2 in Class 10 Maths, Polynomials, lays a crucial foundation for understanding algebraic expressions and their properties. It emphasizes identifying polynomials, determining their degrees, and categorizing them as linear, quadratic, or cubic. These concepts are vital for solving real-life problems involving mathematical modeling, such as motion, growth patterns, and economics.

A clear understanding of polynomials enhances analytical skills and prepares students for advanced algebra topics like factorization, quadratic equations, and calculus in higher studies. This exercise sharpens problem-solving skills, logical thinking, and mathematical reasoning, making it an essential part of academic and competitive exam preparation.

## **What is a Polynomial?**

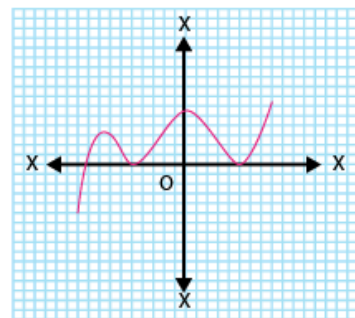
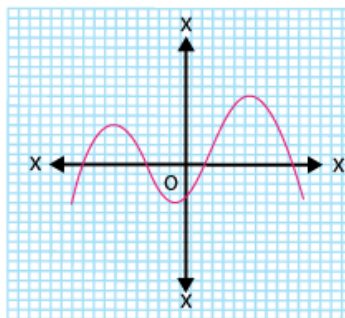
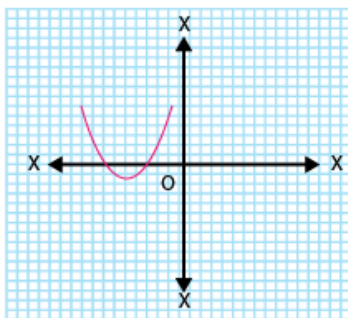
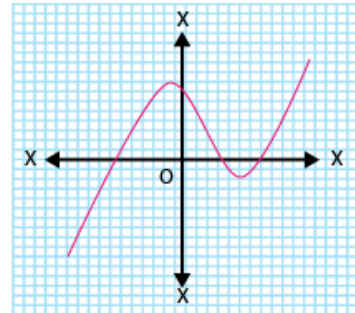
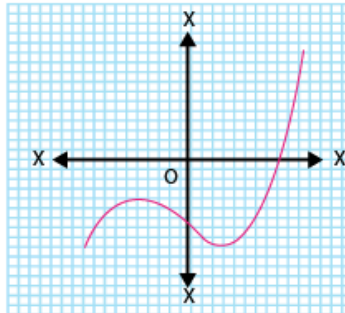
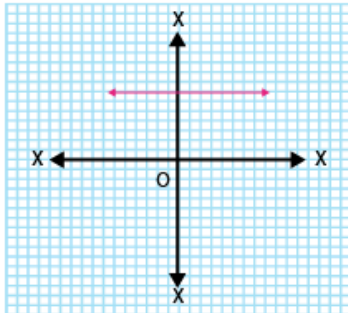
The terms Poly (meaning "many") and Nominal (meaning "terms") combine to form the term polynomial. An expression that consists of variables, constants, and exponents joined by mathematical operations like addition, subtraction, multiplication, and division (but not division by a variable) is called a polynomial. The expression is categorised as trinomial, binomial, or monomial depending on how many terms it contains. Here are some instances of variables, exponents, and constants:

- Constants. Example: 1, 2, 3, etc.
- Variables. Example: g, h, x, y, etc.
- Exponents: Example: 5 in  $x^5$  etc.

## NCERT Solutions for Class 10 Maths Chapter 2 Ex 2.1 Polynomials

Below is the NCERT Solutions for Class 10 Maths Chapter 2 Ex 2.1 Polynomials -

1. The graphs of  $y = p(x)$  are given in Fig. 2.10 below, for some polynomials  $p(x)$ . Find the number of zeroes of  $p(x)$ , in each case.



**Solutions:**

**Graphical method to find zeroes:-**

The total number of zeroes in any polynomial equation = the total number of times the curve intersects the x-axis.

- (i) In the given graph, the number of zeroes of  $p(x)$  is 0 because the graph is parallel to the x-axis and does not cut it at any point.
- (ii) In the given graph, the number of zeroes of  $p(x)$  is 1 because the graph intersects the x-axis at only one point.
- (iii) In the given graph, the number of zeroes of  $p(x)$  is 3 because the graph intersects the x-axis at three points.

(iv) In the given graph, the number of zeroes of  $p(x)$  is 2 because the graph intersects the x-axis at two points.

(v) In the given graph, the number of zeroes of  $p(x)$  is 4 because the graph intersects the x-axis at four points.

(vi) In the given graph, the number of zeroes of  $p(x)$  is 3 because the graph intersects the x-axis at three points.

## **Benefits of Using NCERT Solutions for Class 10 Maths**

### **Chapter 2 Ex 2.1**

**Concept Clarity:** Provides detailed, step-by-step explanations to help students understand the basics of polynomials, including their degrees and types.

**Error-Free Answers:** Offers accurate solutions curated by experts, reducing the chances of errors during self-study.

**Time Management:** Guides students to solve problems efficiently, saving time during exams.

**Exam Focused:** Covers all important topics and question types likely to appear in board exams.

**Improves Problem-Solving Skills:** Enhances logical reasoning and analytical skills through well-explained solutions.

**Self-Paced Learning:** Supports independent study, enabling students to revisit and revise concepts as needed.

**Prepares for Competitions:** Strengthens foundational knowledge crucial for competitive exams.