

Polynomials

Chapter 3: Polynomials · Topic 1

Key Concept

A polynomial consists of terms with variables raised to non-negative integer powers, like $3x^2+2x+5$, combined using addition or subtraction.

The degree of a polynomial is the highest power of the variable, like the polynomial $3x^2+2x+5$ having a degree of 2.

Polynomials can be added, subtracted, multiplied, and divided, following specific rules for combining like terms and distributing.

Factorisation of polynomials, breaking them into simpler factors, is essential for solving polynomial equations and simplifying expressions.

Quick Revision Notes

- Polynomial: terms with variables, non-negative powers.
- Example: $3x^2+2x+5$.
- Degree: highest power of the variable.
- Example above has degree 2.
- Polynomials: add, subtract, multiply, divide.
- Follow rules for like terms, distribution.
- Factorisation breaks into simpler factors.
- This helps solve equations, simplify expressions.

Practice Questions

- 1 Add $3x^2+2x$ and $2x^2+5x$.
- 2 Find the degree of $5x^3+2x-1$.
- 3 Multiply $(x+2)(x+3)$.
- 4 Factorise x^2+5x+6 .
- 5 Subtract $2x+3$ from $5x+7$.
- 6 Explain polynomials in your own words.