

Introduction to Algebraic Expressions

Chapter 4: Expressions using Letter-Numbers · Topic 1

Key Concept

Algebraic expressions are a powerful tool for representing general relationships and solving problems where the exact value isn't yet known — for example, 'a number increased by 7' is written algebraically as $x+7$, allowing the same expression to work for any starting number. Constants are fixed numerical values within an expression (like the 5 in $3x+5$), while coefficients are the numbers multiplying a variable (like the 3 in $3x$), and understanding this vocabulary is essential for working with algebra in later mathematics.

Quick Revision Notes

- An algebraic expression combines variables (letters) with numbers and operations.
- $3x+5$ means 'three times x , plus 5', where x is an unknown value.
- A constant is a fixed value in an expression; a coefficient is the number multiplying a variable.
- Algebra allows general relationships to be expressed without knowing the exact value.

Practice Questions

- 1 Write an expression for 'a number increased by 7'.
- 2 Write an algebraic expression for 'twice a number, decreased by 3'.
- 3 Identify the variable, coefficient, and constant in the expression $4x+9$.