

Evaluating Algebraic Expressions

Chapter 4: Expressions using Letter-Numbers · Topic 2

Key Concept

Careful substitution is essential — the variable must be replaced by its given value everywhere it appears in the expression, and the correct order of operations must still be followed after substitution, especially with expressions involving multiple operations or exponents. This skill of evaluation is fundamental to algebra, since it connects the abstract idea of a variable representing 'any number' to a specific, calculable numerical answer for a particular case.

Quick Revision Notes

- Evaluating an expression means substituting a given value for the variable, then calculating.
- Example: if $x=3$, then $2x+1 = 2(3)+1 = 7$.
- BODMAS order must still be followed after substitution.
- Evaluation connects the abstract idea of a variable to a specific numerical answer.

Practice Questions

- 1 Evaluate $5y-3$ when $y=6$.
- 2 Evaluate $2a^2+3$ when $a=2$.
- 3 Explain the steps to evaluate the expression $4x-7$ when $x=5$.