

Simplifying Algebraic Expressions

Chapter 13: Algebra Play · Topic 1

Key Concept

Simplifying an expression by combining like terms makes it shorter and easier to work with in further calculations — for example, $4y + 3x - 2y$ simplifies to $2y + 3x$ by combining the two y-terms ($4y - 2y = 2y$), leaving the x-term unchanged since there's no other x-term to combine with it. This simplification skill is used constantly throughout algebra, from solving equations to working with more complex polynomial expressions in higher classes.

Quick Revision Notes

- Like terms have the same variable(s) raised to the same power(s).
- Like terms are combined by adding/subtracting their coefficients (e.g., $3x + 5x = 8x$).
- Unlike terms (different variables or powers) cannot be combined directly.
- Simplifying by combining like terms makes expressions shorter and easier to work with.

Practice Questions

- 1 Simplify: $7a + 2b - 3a + 5b$.
- 2 Simplify: $9x^2 + 4x - 3x^2 + 2x$.
- 3 Explain why $3x$ and $3x^2$ are not considered like terms.