

Practice and Revision - Fundamental Concepts (Including Fundamental Operations)

Chapter 10: Fundamental Concepts (Including Fundamental Operations) · Topic 2

Key Concept

Algebraic expressions combine numbers, variables, and operations, like $5x + 3y - 2$, representing mathematical relationships.

We can add or subtract like terms (same variable and power), such as $3x + 2x = 5x$, but not unlike terms like $3x$ and $2y$.

Multiplication of algebraic terms combines coefficients and variables, like $2x \times 3y = 6xy$.

Mastering these fundamental concepts is essential before moving to more advanced algebra topics like equations and factorisation.

Quick Revision Notes

- Algebraic expressions combine numbers, variables, operations.
- Example: $5x + 3y - 2$.
- We add/subtract like terms only.
- $3x + 2x = 5x$ is valid; $3x + 2y$ is not combined.
- Multiplication combines coefficients and variables.
- $2x \times 3y = 6xy$.
- These are fundamental algebra concepts.
- Mastery prepares for advanced algebra.

Practice Questions

- 1 Simplify $6x + 4x$.
- 2 Simplify $9y - 3y$.
- 3 Multiply $3a$ by $2b$.
- 4 Discuss why we can't combine unlike terms.
- 5 Simplify $5x + 3y - 2x$.
- 6 Create your own algebraic expression and simplify it.