

Forming Simple Equations

Chapter 15: Finding the Unknown · Topic 1

Key Concept

Translating word problems into equations requires carefully identifying the unknown quantity (assigning it a variable, like x), and correctly representing the relationships and operations described in words using mathematical symbols. Common phrases have standard translations: 'increased by' or 'more than' typically means addition, 'decreased by' or 'less than' means subtraction, 'times' or 'product of' means multiplication, and 'equals' or 'is' means the equals sign — mastering these translations is the essential first step before an equation can be solved.

Quick Revision Notes

- An equation states two expressions are equal, connected by an equals sign.
- 'A number increased by 5 equals 12' translates to $x+5=12$.
- Common word-to-symbol translations: 'increased by'=addition, 'decreased by'=subtraction, 'times'=multiplication.
- Correctly identifying the unknown and translating relationships is the first step in solving word problems.

Practice Questions

- 1 Write an equation for: 'A number decreased by 4 equals 9'.
- 2 Write an equation for: 'Three times a number, increased by 5, equals 20'.
- 3 Translate the statement 'half of a number is 8' into an equation.