

# Linear equations

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Pearson Edexcel GCSE Mathematics 1MA1 • L019

Foundation and Higher • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

## Purpose

Solve linear equations while preserving equality. Check solutions in the original equation, including unknowns on both sides.

## Vocabulary

Solution: value making an equation true. Inverse: operation that undoes another. Balance: both sides represent equal values. Linear: unknown occurs to power one after simplification.

## Why the method works

Equality is preserved when the same amount is added to or subtracted from both sides. Multiplying or dividing both sides by the same non-zero number also preserves equality. Undo operations in reverse order; moving terms is shorthand for these balanced operations.

## Method and checking

Simplify brackets first. Subtract an unknown term from both sides if needed. Undo addition or subtraction, then multiplication or division. Substitute into the original equation and compare both sides.

## Common errors and next attempt

If learners change only one side, annotate the same operation on both sides. If  $3(x+2)$  is expanded incorrectly, revisit L018. Recheck  $2x+5=13$  and  $5x-2=3x+6$ .