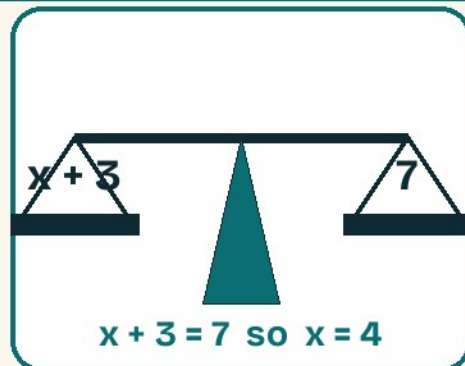


Equations and Algebra

Find the missing number

WHAT IS IT?

An equation says two things are equal. Algebra uses a letter such as x for the number you do not know yet, then works step by step to find it.



THE BIG IDEAS

- 1 Keep both sides balanced: do the same thing to each side.
- 2 Undo operations in reverse: undo adding with subtracting, undo multiplying with dividing.
- 3 A letter is a placeholder for a number you can work out.
- 4 Always check: put your answer back into the equation.

YOU SEE IT WHEN ...

Working out how many weeks to save for a game

Splitting a bill fairly

Scaling a recipe up or down

WORDS YOU WILL MEET

Variable

a letter standing for an unknown number

Coefficient

the number multiplying a variable (in $3x$ it is 3)

Term

one part of an expression separated by $+$ or $-$, like $3x$ or 7

Solve

find the value that makes the equation true

Inequality

compares with $<$, $>$, $\leq$ or $\geq$

System

two or more equations solved together

GOOD TO KNOW FIRST

Arithmetic with negatives and fractions, and the order of operations.

IN YOUR COURSE YOU WILL ...

- Solve one-step, two-step and multi-step equations
- Solve systems of equations
- Graph straight lines ($y = mx + b$)
- Factor and solve quadratic equations

Start tip: Write each step on its own line and do the same thing to both sides.