Finding Missing Numbers in Equations Explained

KS2 MATHS ALGEBRA Ages 9-12 ⏰ 3 min read

What's a Missing Number Problem?

Sometimes in maths, you'll see an equation with a number hidden away. We call this hidden number the **unknown**, and we usually write it as a letter like **x** or **?**. For example: **5 + ? = 12**. Your job is to figure out what that mystery number is!

Finding the missing number is like being a detective solving a puzzle. You have clues (the numbers you can see), and you need to work out the answer.

The Balance Method

The easiest way to find a missing number is to think of an equation like a **balanced scale**. Both sides must be equal.

Think of it like a seesaw at the playground. If you add weight to one side, you need to add the same weight to the other side to keep it balanced. With equations, whatever you do to one side, you must do to the other side.

For example: **7 + x = 15**

To find **x**, you need to remove the **7** from the left side. So you subtract **7** from both sides:

7 + x - 7 = 15 - 7

This gives you: **x = 8**

Working Backwards

Another useful trick is to work **backwards** through the equation. If you have **3 × x = 24**, ask yourself: **What number times 3 equals 24?** The answer is **8**, because **3 × 8 = 24**.

Think of it like unwrapping a present in reverse. If someone wrapped something in paper, then put it in a box, then put that in a bag—you'd open the bag first, then the

box, then the paper to get to the gift. With equations, you undo the operations in the opposite order they were done.

Checking Your Answer

Always check your work! Pop your answer back into the original equation. If **x = 8** in the equation **7 + x = 15**, check: **7 + 8 = 15**. Yes, that's correct!

Finding missing numbers is a **superpower** in maths. It helps you solve puzzles, understand patterns, and prepares you for more advanced algebra later on.