



# How to Divide Large Numbers and Understand Remainders

**KS2 MATHS** Ages 10-14 ⌚ 3 min read

## What is Division?

**Division** is splitting something into equal groups. When you divide a large number, you're asking: "How many times does this number fit into that number?" For example,  $24 \div 6 = 4$  means **6** fits into **24** exactly **4** times.

But what happens when numbers don't divide equally? That's where **remainders** come in.

## Understanding Remainders

A **remainder** is the amount left over after you've divided as much as you can. For example, if you divide  $25 \div 6$ , you can fit **6** into **25** four times (that's **24**), but you have **1** left over. So the answer is **4 remainder 1** (written as **4 R1**).

Think of it like sharing pizza slices: if you have **25** slices and **6** friends, each friend gets **4** whole slices, and there's **1** slice nobody gets. That **1** slice is your remainder!

## Long Division: Step by Step

For larger numbers, we use a method called **long division**. Here's how it works:

- 1. Set it up:** Write the number you're dividing (the **dividend**) inside a division bracket, and the number you're dividing by (the **divisor**) outside on the left.
- 2. Divide:** Look at the first digit. Does your divisor fit into it? If not, look at the first two digits. How many times does it fit?
- 3. Multiply:** Multiply your divisor by that number and write the answer underneath.
- 4. Subtract:** Subtract to find what's left over.
- 5. Bring down:** Bring down the next digit and repeat until you've used all digits.

Think of it like a recipe you follow step by step: each action builds on the last one until you reach your final answer.

## Why Remainders Matter

Remainders aren't just maths problems—they show up in real life! If a teacher wants to split **23** students into groups of **4**, there will be **5** groups with **3** students left over. Understanding remainders helps you solve practical problems and know when you need an extra group or item.

Sometimes you'll express remainders as fractions or decimals instead.  **$25 \div 6$**  could also equal **4.17** or  **$4 \frac{1}{6}$** —it's the same answer in different forms!