Using Coordinates to Find Points on Graphs

KS3 MATHS Ages 11-14 ⏰ 3 min read

What Are Coordinates?

Coordinates are a pair of numbers that tell you exactly where a point is on a graph. They work like an address for a location. Instead of saying "somewhere over there," coordinates use numbers to be precise and clear.

Every coordinate has **two numbers** separated by a comma, like this: **(3, 5)**. These numbers are called **x** and **y**. The **x** comes first, and the **y** comes second.

Think of it like giving someone directions in a city. The first number tells them how far to walk right (or left), and the second number tells them how far to walk up (or down). Without both directions, they'd never find the exact spot!

Understanding the Two Numbers

The **first number (x)** tells you how far to move left or right along the bottom line, called the **x-axis**. Numbers going right are positive. Numbers going left are negative.

The **second number (y)** tells you how far to move up or down along the side line, called the **y-axis**. Numbers going up are positive. Numbers going down are negative.

These two lines meet at a point called the **origin**, which has coordinates **(0, 0)**. This is your starting point.

Think of it like a treasure map. The x-axis is like directions to walk forward or backward, and the y-axis is like directions to walk left or right. Together, they pinpoint exactly where the treasure is buried!

How to Find a Point

To find the point **(3, 5)** on your graph, follow these simple steps:

Step 1: Start at the **origin (0, 0)**, where the axes meet.

Step 2: Move **3 units to the right** along the x-axis (the bottom line).

Step 3: From that spot, move **5 units up** along the y-axis (the side line).

Step 4: Mark the point where you end up. That's your answer!

Always remember: **move right first, then up** (or down if the y-number is negative). This is called the "**right one, up one**" rule.

Why Does This Matter?

Coordinates help scientists, engineers, and mathematicians describe positions accurately. Video game designers use coordinates to place objects on screens. Pilots use coordinates to navigate. GPS uses coordinates to find your location anywhere in the world!