



The coordinate plane

Across first, then up

- Today: why $(3, 5)$ and $(5, 3)$ are different places.

Two number lines

- One across: the x-axis.
- One up: the y-axis.
- They cross at the ORIGIN, $(0, 0)$.

Every point is named by two distances.

Read the axes, not a rhyme

- In $(3, 5)$, the 3 belongs to the x-axis.
- So 3 ACROSS, then 5 UP.

The label on the axis tells you the order.

The hiding place

- $(4, 4)$ reversed is still $(4, 4)$.

So test yourself on $(3, 5)$, never on $(4, 4)$.

Count SPACES, not lines

- Start at the origin. Move 3 spaces right.
- Counting lines from the origin gives 2.

The origin is the ruler's 0, not its 1.

Zero is an instruction

- $(0, 4)$: 0 across, 4 up. On the y-axis.
- $(4, 0)$: 4 across, 0 up. On the x-axis.

“Stay where you are” is a real move.

Points that mean something

- Hours across, miles up. The point (3, 12).
- 3 hours, 12 miles. 4 miles per hour.

(12, 3) would be a different journey entirely.

Your turn

- Plot $(2, 7)$, $(7, 2)$, $(0, 5)$ and $(5, 0)$.
- Then: read $(6, 24)$ on an hours-and-miles graph. With units.

Plot it, then read it back to check.