

3 Coordinates – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)
coordinate	坐标	_____
midpoint	中点	_____

Recall

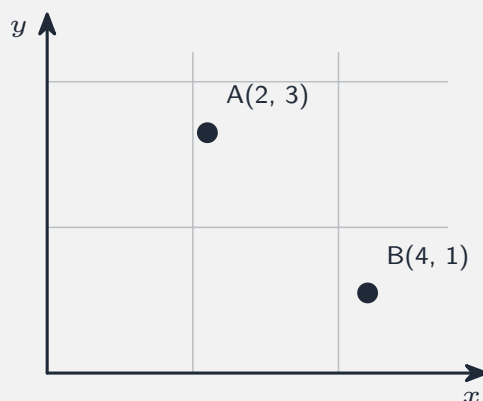
A **coordinate** 坐标 grid locates points. The position (x, y) gives the across value, then the up value.

New ideas

Read these first, then do the Practice.

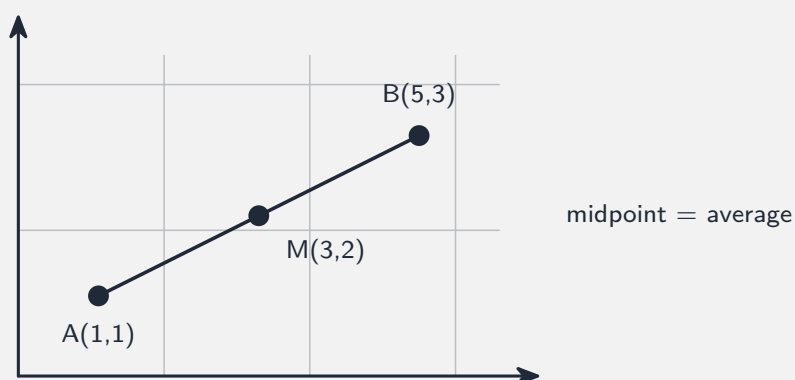
■ 1 Plotting points

The first number is x (across), the second is y (up):



■ 2 The midpoint

The **midpoint** 中点 of two points is the average of their coordinates:



$$\text{Midpoint} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right).$$

Watch out: a coordinate is always (**across, up**) —the x value first, then y . The **midpoint** is the *average* of the two x -values and of the two y -values.

Practice

Try these in order.

3.1 Write down the coordinates of a point 3 across and 2 up. [1]

3.2 In the point (5, 2), which number is the x -coordinate? [1]

3.3 Find the midpoint of $(2, 4)$ and $(6, 8)$. [2]

3.4 Find the midpoint of $(0, 0)$ and $(10, 4)$. [2]

3.5 Point A is $(3, 1)$ and point B is $(3, 7)$. What is special about the line AB? [1]

3.6 Challenge. A is $(1, 2)$ and the midpoint of AB is $(4, 5)$. Find the coordinates of B. [3]