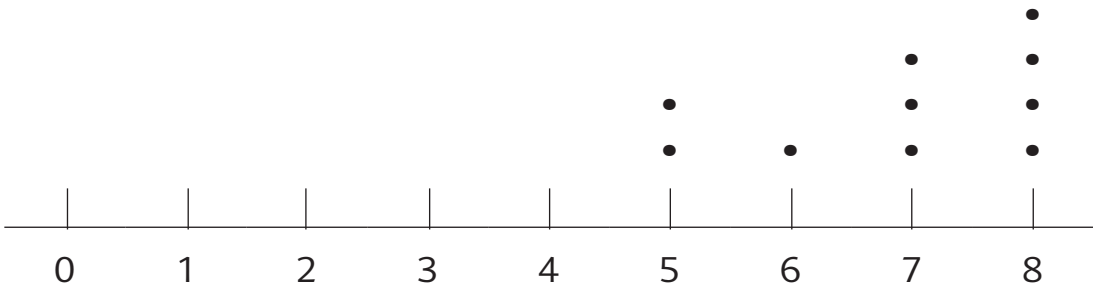
Line Plots

The results of surveys can be organized in different ways to help us analyze the data more easily. We can use a line plot to present the data.

1. Seth conducted a survey to find out how many glasses of water students drink in a day. He then created a line plot to show his data clearly.

Number of glasses of water students drink in a day				
8	7	5	8	8
6	7	8	7	5



Number of glasses of water students drink in a day

(a) Look at the line plot and without calculating, estimate the average number of glasses of water each student drinks in a day.

(b) What is the average number of glasses the students drink in a day?

(a) The average estimated number of glasses of water each student drinks in a day is 7 glasses or 8 glasses.

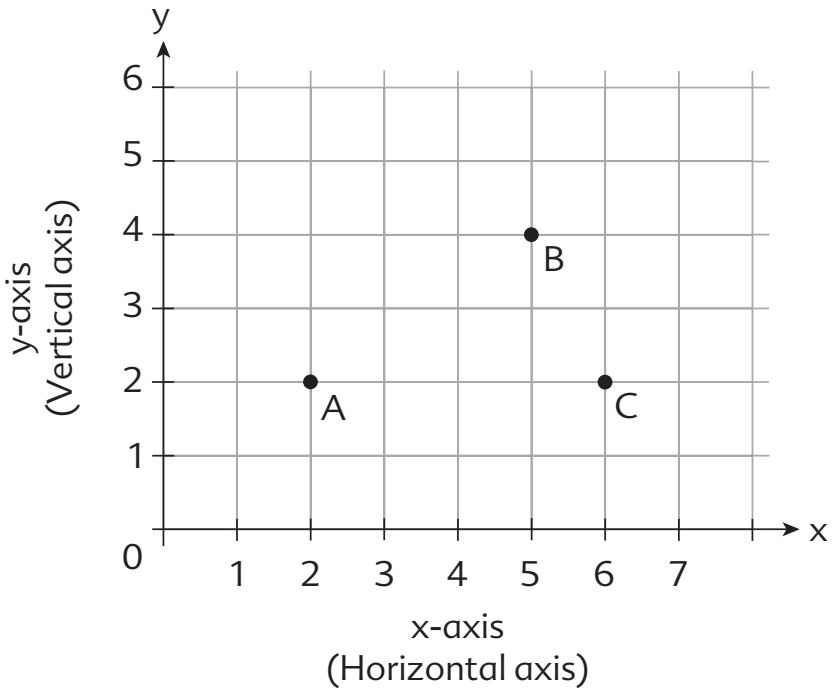
(b) $\text{Total} = (2 \times 5) + (1 \times 6) + (3 \times 7) + (4 \times 8)$
$= 10 + 6 + 21 + 32$
$= 69$

$\text{Average number of glasses of water} = 69 \div 10$
$= 6\frac{9}{10}$

Each student drinks an average of $6\frac{9}{10}$ glasses of water a day.

Coordinate Graphs

A coordinate grid has two axes. They are the **x-axis** (horizontal axis) and the y-axis (vertical axis).
The axes meet at the **origin** or the point (0, 0).



(2, 2) ⟶ two units from O along the x- and y- axes.

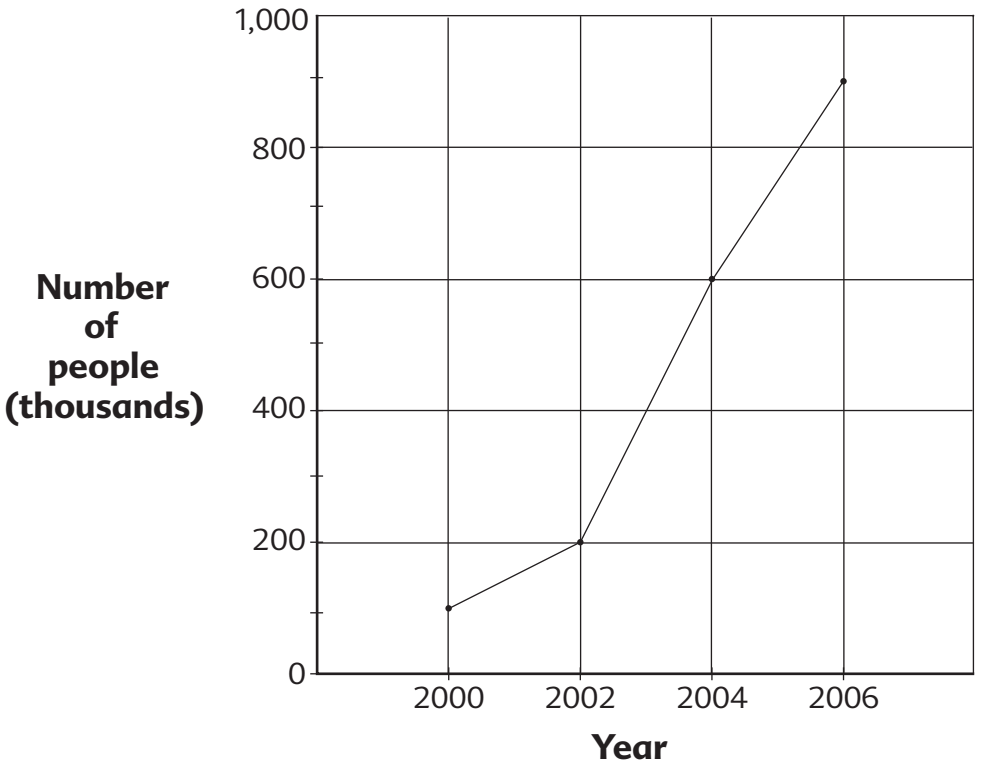
(5, 4) ⟶ five units from O along the x-axis, 4 units from O along the y-axis.

(2, 2), (5, 4), and (6, 2) are **ordered pairs**.
The numbers in an ordered pair are called the **coordinates**.
The first number is called the **x-coordinate** and the second number is called the **y-coordinate**.
Coordinates of A are (2, 2).
Coordinates of B are (5, 4).
Coordinates of C are (6, 2).

Line Graphs

Line graphs are used to represent data which changes over time.

1. The line graph shows the estimated number of people who own a cell phone in a city in the years from 2000 to 2006.



(a) When was the increase in the number of people who own the cell phone the greatest?

(b) Find the increase in the number of people who own a cell phone from 2000 to 2006.

(a) The greatest increase in the number of people who own a cell phone is between 2002 and 2004.

(b) 900,000 − 100,000 = 800,000
The increase in the number of people who own a cell phone from 2000 to 2006 is 800,000.