**Graphs**

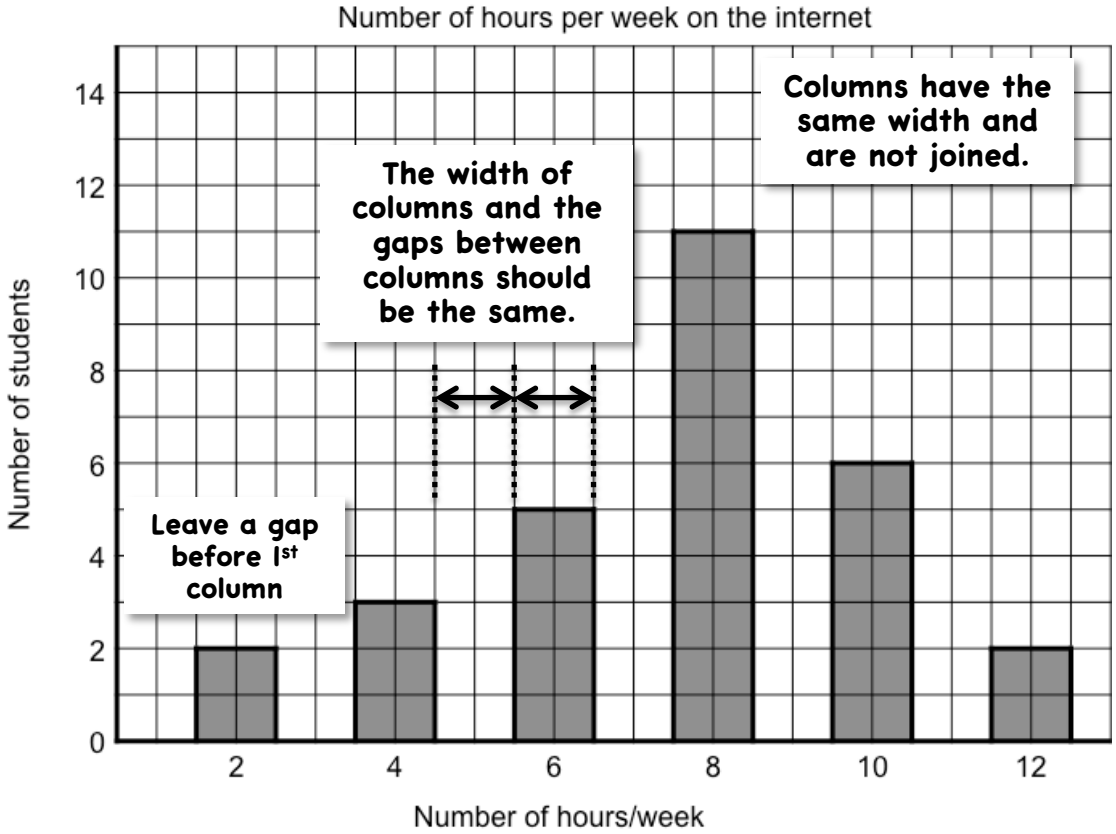
All graphs need:
- A title
- Axes labelled

# Column Graphs

*Column Graphs are used for **discrete** (counted) data. For example, eye colour of people, colours of cars.*

This table shows the number of hours spent on the internet by students.

| Number of hours/week | 2 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|
| Number of students | 2 | 3 | 5 | 11 | 6 | 2 |




**Values (dependent data) on the vertical axis.**

**Categories or independent data shown on the horizontal axis.**

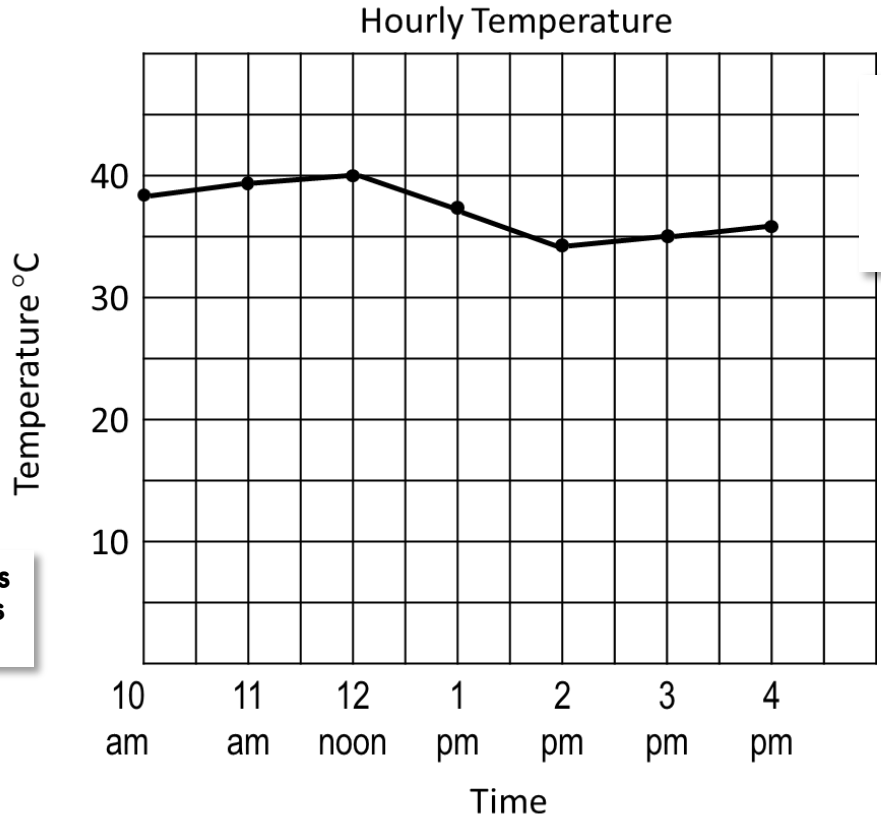
**Graphs**
All graphs need:
- A title
- Axes labelled

# Line Graphs

*Line Graphs are used for **continuous** (measured) data.*
*For example, height, temperature.*

A line graph for a hospital patients temperature.

| Time | 10 am | 11 am | 12 noon | 1 pm | 2 pm | 3 pm | 4 pm |
|---|---|---|---|---|---|---|---|
| Temp °C | 38 | 39 | 40 | 37 | 34 | 35 | 36 |




**Data is plotted using dots and connected with straight lines or curves.**

**Values (dependent data) on the vertical axis.**

**Vertical axis scale starts at zero.**

**Independent data shown on the horizontal axis.**

**Graphs**
**All graphs need:**
- **A title**
- **Axes labelled**

A sector graph does not really have axes.

# Sector Graphs (pie charts)

*Step Graphs are used for **discrete** (counted) data.*
*For example, favourite foods, favourite sports.*

Sector graphs use sectors of a circle to represent data.
Sector graphs are also called pie charts because they look like a pie with pieces cut out.
Sector graphs are good for showing portions of a whole.

There are 360° in one revolution of a circle. Each sector is a fraction of 360°.

Example survey and calculations to determine the angles required to created a sector graph.

① Determine the fraction each category represents.
② Work out what angle represents this fraction (fraction of 360°).
③ Draw a circle using a compass. Draw each sector, measuring the angle using a protractor.

| Favourite Sport | Number | ① Fraction | ② On your calculator (Instructions for Casio Scientific Calculator) | Angle size |
|---|---|---|---|---|
| Football | 90 | $\frac{90}{180}$ | 90 ▭ 180 × 360 = | 180° |
| Soccer | 45 | $\frac{45}{180}$ | 45 ▭ 180 × 360 = | 90° |
| Basketball | 30 | $\frac{30}{180}$ | 30 ▭ 180 × 360 = | 60° |
| Tennis | 15 | $\frac{15}{180}$ | 15 ▭ 180 × 360 = | 30° |
| Total | 180 | | | |

Use division ÷ when the calculator does not have a fraction key.