

UNIT 16 *Data Presentation*

Introduction to SIM

Learning objectives

This unit continues the topic of *data collection and presentation* and illustrates different ways in which you can present data. You will have already met *bar charts* in Unit 15; now you will become familiar with *pie charts*, *line graphs* and *histograms*. After completing this unit of STUDENT INSTRUCTIONAL MATERIAL (SIM) you should understand how to construct and use

- pie charts to illustrate discrete data
- line graphs to illustrate data
- histograms with equal class intervals to illustrate continuous data
- histograms with unequal class intervals to illustrate continuous data.

Key points and principles

- Pie charts are a useful way of illustrating discrete data; for example, colour of cars, government spending for different ministries.
- Line graphs are particularly helpful when illustrating data that has a trend over time; for example, car sales per year, number of cellphones bought each month.
- Histograms are used to illustrate *continuous* data with a frequency graph; there will be a continuous scale along the horizontal axis.

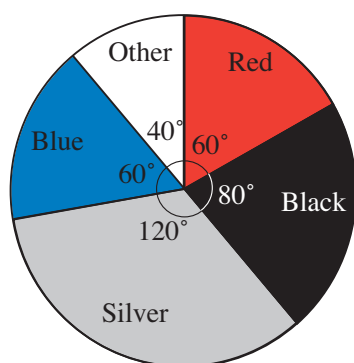
Facts to remember

- Pie charts are used to illustrate discrete data
- Line graphs are used to illustrate data that has a trend
- Histograms (frequency graphs) are used to illustrate continuous data.

Glossary of terms

Pie chart - used to illustrate *discrete* data.

For example, colours of cars recorded in a survey:



<i>Colour</i>	<i>Number of cars</i>	<i>Proportion of total number</i>	<i>Angle ($\times 360^\circ$)</i>
Red	15	$\frac{15}{90}$	60°
Black	20	$\frac{20}{90}$	80°
Silver	30	$\frac{30}{90}$	120°
Blue	15	$\frac{15}{90}$	60°
Other	10	$\frac{10}{90}$	40°
Total	90	$\frac{90}{90} = 1$	360°

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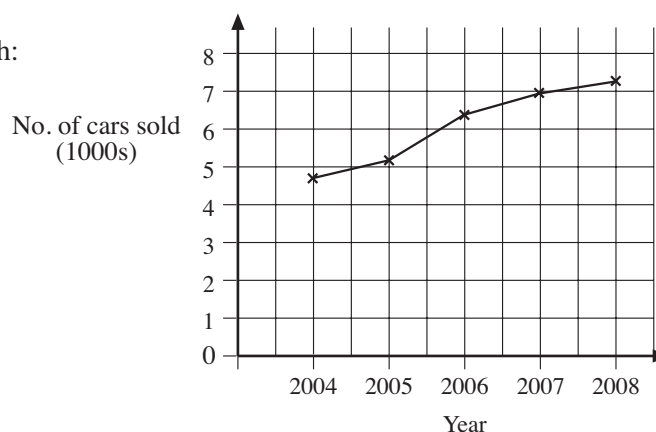
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Line graph - used to illustrate *trends* in data.

For example, numbers of cars sold per year:

<i>Year</i>	2004	2005	2006	2007	2008
<i>No. of cars sold (1000s)</i>	4.7	5.1	6.3	6.9	7.3

Data shown on a line graph:



Histogram (or frequency graph) - used to illustrate *continuous* data.

For example, times taken for competitors to complete a Charity Fun Run:

<i>Time (mins)</i>	<i>Frequency</i>
25 - 30	0
30 - 35	10
35 - 40	8
40 - 45	21
45 - 50	28
50 - 55	7
55 - 60	0

Data shown on a histogram:

