Pie charts

Starter

1. **(Review of last lesson)** 120 were asked their favourite holiday destination and they all chose France, Greece, Spain or the USA.
14 men chose Greece.
20 out of 64 women chose Spain
A quarter of the women chose France.
$60\,\%$ of the 25 people who chose the USA are women.
The same number of men chose Spain as France.
Record the information in a two-way table.

2. **(Review of previous material)**
A class of students was asked what their favourite colour was. Here are their responses.

Colour	Red	Green	Blue	Pink
Frequency	12	7	5	6

A pie chart is to be drawn for the data. Work out the angles for each category and then draw the pie chart.

3. In a survey of y people about their favourite sport, x of them said they preferred swimming. Write down an expression in terms of x and y for the angle in a pie chart that would represent swimming.

Notes

Pie charts are normally used to represent categorical data (i.e. data expressed in categories.

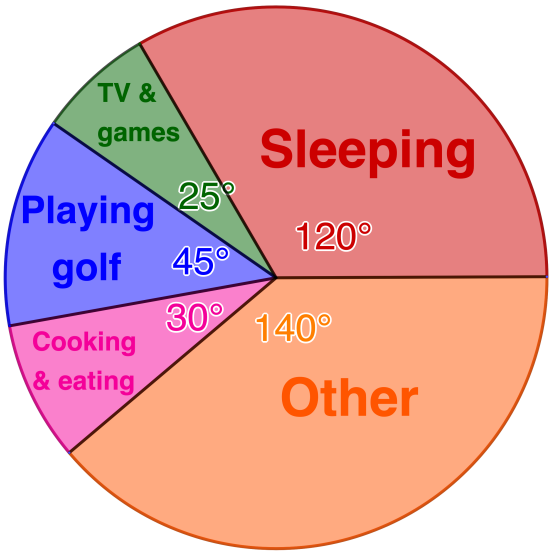
$$\text{Angle in pie chart} = \frac{\text{Category frequency}}{\text{Total frequency}} \times 360^\circ$$

This is a bit like the formula for expressing one quantity as the percentage of another — with angles we multiply by 360° and with percentages we multiply by $100\,\%$.

E.g. 1 In a pie chart on how pupils travel to school, the angle for the cycling sector has an angle of 45°. Given that 584 pupils answered the survey, calculate how many travel to school by bike.

E.g. 2 In a pie chart on favourite pizza flavours, 18 people said they preferred spicy chicken and this gave an angle of 72°. How many people answered the survey?

When interpreting pie charts, use the fact the facts that each angle is out of $360°$.



E.g. 3 One weekend, Maya's went away and left her in charge of the house. The pie chart indicates how she spent her time.

(a) What fraction of her time was spent sleeping?
(b) How long did she spend playing golf?
(c) How long did she spend watching TV and playing computer games?

Working: (a) $\text{Sleeping} = \frac{120}{360} = \frac{1}{3}$

Video: Drawing a pie chart
Video: Interpreting pie charts

Solutions to Starter and E.g.s

Exercise

9-1 class textbook:	p354 M11.2 Qu 1-10
A*-G class textbook:	p317 M11.2 Qu 1-10
9-1 homework book:	p121 M11.2 Qu 1-6
A*-G homework book:	p90 M11.2 Qu 1-6

Summary

$$\text{Angle in pie chart} = \frac{\text{Category frequency}}{\text{Total frequency}} \times 360°$$

When interpreting pie charts, use the fact the facts that each angle is out of $360°$.