

Critically evaluating graphs and misleading data

MODULE 9 · DATA AND CHANCE REVIEW

HOW TO ANSWER TODAY

- **Y-axis scale.** Pick a step that makes the tallest bar fit but isn't so small the chart is huge.
Tallest = 75 → use steps of 10 (about 8 grid lines), not 1 (75 lines)
- **Read a bar chart.** Read the top of each bar. Check the y-axis scale to see what each grid line is worth.
Each grid line = 5, bar reaches the 4th line → value is 20
- **Pie chart.** A full circle = 360° . A segment's angle $\div 360^\circ$ gives its fraction; multiply by 360° to go the other way.
 $90^\circ \div 360^\circ = 1/4 \cdot 3/5$ of $360^\circ = 216^\circ$

STRETCH PROBLEMS

- 1 5th class are drawing a bar chart of the rainfall logged on the school weather chart over a fortnight. The wettest day measured **117 mm** and they need to choose a sensible y-axis step from **1**, **5** or **10** so the chart shows about **10** to **15** grid lines from **0** to the top. Which step should they pick?

You are drawing a bar chart and the largest bar will be 117. Choose a sensible y-axis step from 1, 5 or 10 so the chart shows about 10 to 15 grid lines from 0 to the top.

- 2 Cian's 5th class did a survey of how all **228** pupils in the school travel to school each day. He is drawing a bar chart and the tallest bar will reach **228**. From the steps **1**, **5** or **10**, which one should he choose for the y-axis so the chart shows about **10** to **15** grid lines from **0** up to the top?

You are drawing a bar chart and the largest bar will be 228. Choose a sensible y-axis step from 1, 5 or 10 so the chart shows about 10 to 15 grid lines from 0 to the top.

- 3 5th class made a bar chart of points scored by each team at the Cumann na mBunscol hurling blitz. The Shamrocks scored **17**, the Harps scored **30**, the Gaels scored **18**, the Rovers scored **19** and the Celts scored **32**. How many points were scored in total across the blitz?

A bar chart shows fruit preferences in a class. Apple: 17, Pear: 30, Orange: 18, Banana: 19, Plum: 32. How many pupils took part in total?

- 4 The whole school ran a favourite-fruit survey for healthy-eating week and put the results on a bar chart in the hall. Apple got **13** votes, Pear got **37**, Orange got **24**, Banana got **11** and Plum got **21**. How many pupils took part in the survey altogether?

A bar chart shows fruit preferences in a class. Apple: 13, Pear: 37, Orange: 24, Banana: 11, Plum: 21. How many pupils took part in total?

- 5 Cian draws a pie chart on the classroom working wall showing the weather over a fortnight. The sunny segment measures **78°** and the cloudy segment measures **146°** , with rainy days making up the rest of the circle. What is the angle of the rainy segment, remembering that the whole circle is **360°** ?

A pie chart has three segments. One segment is 78° and another is 146° . What is the angle of the third segment (remember the whole circle is 360°)?