

Stage 6 Cambridge Primary Mathematics Practice Worksheet

Wednesday 19 August 2026

Syllabus Focus: Objective 6Ss.02 — Representing Data & Choosing Representations

TWM Focus: TWM.07 (Critiquing — Advantages and Disadvantages)

Time Allowed: 30 Minutes | **Total Marks:** 20 Marks

Section A: Data Classification & Chart Matching

Question 1 [2 Marks]

Match each scenario to the **most appropriate** representation type by writing the letter (**A**, **B**, **C**, or **D**):

Scenario	Letter	Representation Options
(a) Showing how the temperature changed every hour from 06:00 to 18:00.	_____ [1]	A. Pie Chart
(b) Showing the proportion of total school lunch orders chosen as Pizza, Burger, or Salad.	_____ [1]	B. Line Graph C. Carroll Diagram D. Scatter Graph

Question 2 [2 Marks]

Identify whether each variable is **Categorical**, **Discrete**, or **Continuous**:

(a) The daily rainfall measured in millimetres over a 2-week period.

Answer: _____ [1]

(b) The shoe sizes of 25 learners in a Stage 6 classroom (3,4,4.5,5,5.5, ...).

Answer: _____ [1]

Section B: Critiquing Data Representations (TWM.07)

Question 3 (TWM.07 Critiquing) [2 Marks]

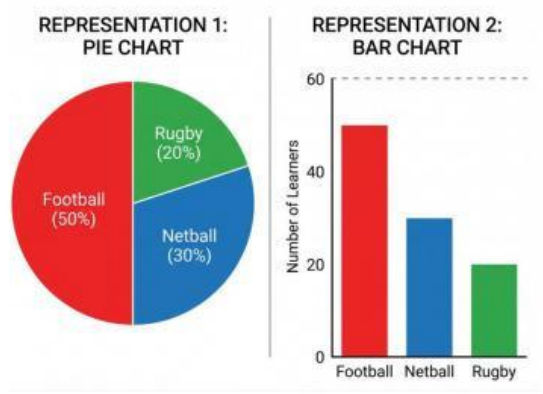
Read the scenario below carefully:

A school recorded the total price of used bicycles sold at a local market (\$50 to \$300) grouped in intervals. An author chose to draw a **Line Graph** by connecting the tops of the grouped data points with straight lines.

State one **disadvantage** of using a line graph for this grouped data and explain why a **bar chart** or **frequency diagram** would be better. [2]

Question 4 (TWM.07 Critiquing) [2 Marks]

Study the two chart representations showing the favourite sports of 100 Stage 6 learners:



(a) Which representation makes it easiest to see that Football makes up **exactly half** ($\frac{1}{2}$) of the total? [1]

Answer: _____

(b) Which representation makes it easiest to read the **exact difference in the number of learners** between Netball and Rugby? [1]

Answer: _____

Section C: Data Interpretation & Evaluation

Question 5 [2 Marks]

A scatter graph is plotted comparing **Learners' Height (cm)** against **Learners' Arm Span (cm)**.

(a) Is height continuous or discrete data? [1]

Answer: _____

(b) What advantage does a **scatter graph** offer over a table of raw numbers for this data? [1]

Answer: _____

Question 6 [2 Marks]

A Carroll Diagram is used to sort numbers between 1 and 20:

	Even Number	Not an Even Number
Square Number	4,16	1,9
Not a Square Number	2,6,8,10,12,14,18,20	3,5,7,11,13,15,17,19

(a) How many numbers in total were sorted in this diagram? [1]

Answer: _____

(b) What is the main advantage of using a **Carroll Diagram** for this task rather than a bar chart?

[1]

Answer: _____

Section D: Misconception Identification & Statistical Investigation

Question 7 (Misconception Check) [2 Marks]

Samir created a bar chart to show the number of pets owned by families in her neighbourhood.
Look at the vertical scale on her graph:

Scale values on vertical y-axis: 0, 5, 10, 15, 100, 105

- (a) Spot the error or misleading feature in Samir's vertical scale. [1]
- (b) Explain why an uneven scale creates an inaccurate representation of data. [1]

Question 8 [2 Marks]

A dot plot displays the number of goals scored by a soccer team in 10 matches:

Dot Plot: 0 (..) 1 (....) 2 (..) 3 (.)

- (a) What was the modal number of goals scored per match? [1]

Answer: _____

- (b) State one **limitation** of using a dot plot if the team played 1,000 matches. [1]

Answer: _____

Question 9 [2 Marks]

A waffle diagram consists of a 10 × 10 grid containing 100 small squares.

In a grid representing 100 garden flowers:

- 45 squares are shaded Blue (Hydrangeas)
- 35 squares are shaded Red (Roses)
- 20 squares are shaded Yellow (Sunflowers)

(a) What percentage of the garden flowers are Roses? [1]

Answer: _____ %

(b) How does a **waffle diagram** help learners convert frequency directly into percentages? [1]

Answer: _____

Question 10 (Statistical Enquiry / TWM.07) [2 Marks]

Sam is investigating the question:

"Does the mass of a runner affect how fast they can complete a 100m sprint?"

(a) What type of data representation should Sam choose to show the relationship between **Mass (kg)** and **Sprint Time (seconds)**? [1]

Answer: _____

(b) Give a reason for your choice in part (a). [1]

Reason: _____